Author Index to Volume 30

In this index are listed names of authors and titles of their articles and notes, Abstracts of papers read at meetings are designated by the letter (A) after the number of the page on which the abstract may be found. Those papers that have been published only by title have not been listed. The symbol (L) after an entry signifies a Letter to the Editor.

Adams, C. E., W. L. Wilhoyte, and P. P. Lin. Ultrasonic absorption in gases using a pulse technique-394(A)

Ahlgren, Andrew. An electric-mechanical analog-654 Ahrens, Tino, Aether concept versus special relativity-34

Ainslie, D. S. Electrophorus for lecture demonstrations-69

- Simple circuits for electric and magnetic measurements-552(A) Simple circuits for the measurement of magnetic field strength,
- inductance, and capacitance-487 Simplified bridge and resonant circuits for the measurement of
- resistance in absolute units-36 Allard, Jaques. Remarks on the physical possibilities of the square
- when visualized as a curvilinear curve-840 Allen, Ronald J. A demonstration of the magnetic mirror effect
- -867 Alzofon, Frederick E. Retardation and diffraction aspects of the
- conduction of heat in solids-285
- Amado, Ralph D. Review of Dispersion relations and elementary particles-75
- Amme, Robert C. Attenuation of sound at high altitudes-479(A) Anderson, Gordon D. and William Band. Compressible fluid flow and the theory of characteristics-831
- Anderson, William R. Some research on scintillators-234(A) Andrews, C. L. Microwave Doppler demonstration-549(A)
- Report of the membership committee to the council of the association (AAPT)-472
- Armstrong, H. L. On dealing with the imprecisions in experimental measurements-767
- Review of States of matter-932
- Review of Advanced level physics-312
- and N. K. Sherman. On a students' misconception about gravity and acceleration-528
- Arnett D. and M. T. McEllistrem. Aperture extension of a paraffin and Li₂CO₃ collimator caused by gamma-ray transmission for gamma-ray energies of 0.511 MeV and 1.277 MeV-81(A)
- Arons, Arnold. Review of Treasury of world science-936 Askovitz, S. I. Further applications of the method of advancing
- centroids-551(A) Axel, Peter. Review of Amplifier circuits-231
- Review of Annual review of nuclear science-847
- Review of The fundamental atomic constants-149
- Review of International dictionary of physics and electronics -150
- Babcock, Gary C. The "Sagnac" interferometer-311(L)
- Badar, Lawrence (see Deall, Louis)-553(A)
- Baes, Albert V. The role of UNESCO in the teaching of physics -553(A)
- Band, William. Forced vibrations of a harmonic lattice in quantum mechanics-646
- (see Anderson, Gordon D.)-831
- Barker, E. F. Elementary analysis of the gyroscope-533(L)
- Barner, J. and W. Noll. A demonstration nodal device-942(A) Barnes, George. On the importance of studying physics-314(A) 553(A)
- Report of a joint meeting of the AAPT: Northern California-Southern California sections-314
- Barr, E. Scott. Anniversaries in 1962 of interest to physicists-347 Bate, George L. Student experiment on the measurement of nuclear excitation functions 417
- Baxi, Madhuker, B. S. Vibratory Brownian motion-783
- Bemski, George. Studies of the electronic structure of covalent semiconductors by EPR-902

- Bender, D. F., A. S. Leonard, and G. A. McCue. Keeping track of satellites-555(A)
- Bennett, D. M. Apparatus for the demonstration of simple harmonic motion-470
- Bernal, Enrique (see Donnally, Bailey)-550(A)
- Bilaniuk, O. M., V. K. Deshpande, and E. C. G. Sudarshan. "Meta" relativity-718
- Bilaniuk, O. M. (see Hafner, E. M.)-615
- Black, H. T. P.S.S.C. physics in Indiana-550(A)
- Blüh, Otto. The hedgehog and the fox-552(A)
- Bork, Alfred M. The non-linear ruler—451
 A "Two Cultures" physics course—708
- Brady, James J. The regional counselor program in physics-779(A)
- Brehme, R. W. A geometric representation of Galilean and Lorentz transformations-489
- Bretscher, M. M. A student measurement of the diffusion length of thermal neutrons in water by a negative source technique-814
- Brodie, Laird, Cecil Sanford, and Charles Haase. Magnetoresistance of bismuth single crystals-779(A)
- Brooks, John T. (see Telfair, David)-561
- Brown, Sanborn C. Report of the treasurer-558
- Resource letter PP-1 on plasma physics-303
- Review of The plasma state-147
- Review of Radiation and waves in plasmas-611
- Review of Scientific foundations of vacuum technique-612
- Brown, Thomas B. Microwave zone plates-55
- Brown, V. K., Jr. Chicago high school physics teachers association report of the committee on certification-539
- Brown, William Fuller, Jr. Erratum: Single-domain particles: new uses of old theorems-73 Brush, Stephen. The development of the kinetic theory of gases,
- VI. Viscosity-269 Buchdahl, H. A. Remark concerning the eigenvalues of angular
- momentum-829
- Burkhard, Donald G. (see Mizushima, Masataka)-479(A)
- Butler, Al. The overhead projector as a replacement for the blackboard-612(A)
- Calandra, Alexander. Physics in junior high school-553(A)
- Cardwell, A. B. About lecture tables-841(L)
- Carroll, P. J., Jr. and J. J. Kyame. Matrix representation of thermodynamics of multicomponent systems-282
- Castafis, Manuel. Entropy and uncertainty-521
- Christy, R. W. Review of Solid state physics, Vol. 12, Advances in research and applications-936
- Claney, Edward P. Women and physics-626
- Clark, Clifton Bob. Film review: Archimedes' principle-932
- Coffman, Moody L. Source equation for magnetic flux density-926 Cohn, Byron E. Conference on curricula for undergraduate majors in physics-79
- Condon, E. U. Intermediate courses in physics-166
- Cooper, C. B. (see Woodyard, J. R.)-943(A)
- Correll, Malcolm. A+ for teaching-68
 - Film review: Photons and Interference of photons-772
- Intermediate physics courses for the undergraduate physics major-178
- 1962 citations for distinguished service-328
- Cram, S. Winston. Review of Water the mirror of science-608 Cummings, Fred W. Long time transition probabilities for a twolevel system interacting with a stochastic electromagnetic field-898
- Cunningham, John and Robert Karplus. Free fall demonstration experiment-656

Author Index to Volume 30

In this index are listed names of authors and titles of their articles and notes, Abstracts of papers read at meetings are designated by the letter (A) after the number of the page on which the abstract may be found. Those papers that have been published only by title have not been listed. The symbol (L) after an entry signifies a Letter to the Editor.

Adams, C. E., W. L. Wilhoyte, and P. P. Lin. Ultrasonic absorption in gases using a pulse technique-394(A)

Ahlgren, Andrew. An electric-mechanical analog-654 Ahrens, Tino, Aether concept versus special relativity-34

Ainslie, D. S. Electrophorus for lecture demonstrations-69

- Simple circuits for electric and magnetic measurements-552(A) Simple circuits for the measurement of magnetic field strength,
- inductance, and capacitance-487 Simplified bridge and resonant circuits for the measurement of
- resistance in absolute units-36 Allard, Jaques. Remarks on the physical possibilities of the square
- when visualized as a curvilinear curve-840 Allen, Ronald J. A demonstration of the magnetic mirror effect
- -867 Alzofon, Frederick E. Retardation and diffraction aspects of the
- conduction of heat in solids-285
- Amado, Ralph D. Review of Dispersion relations and elementary particles-75
- Amme, Robert C. Attenuation of sound at high altitudes-479(A) Anderson, Gordon D. and William Band. Compressible fluid flow and the theory of characteristics-831
- Anderson, William R. Some research on scintillators-234(A) Andrews, C. L. Microwave Doppler demonstration-549(A)
- Report of the membership committee to the council of the association (AAPT)-472
- Armstrong, H. L. On dealing with the imprecisions in experimental measurements-767
- Review of States of matter-932
- Review of Advanced level physics-312
- and N. K. Sherman. On a students' misconception about gravity and acceleration-528
- Arnett D. and M. T. McEllistrem. Aperture extension of a paraffin and Li₂CO₃ collimator caused by gamma-ray transmission for gamma-ray energies of 0.511 MeV and 1.277 MeV-81(A)
- Arons, Arnold. Review of Treasury of world science-936 Askovitz, S. I. Further applications of the method of advancing
- centroids-551(A) Axel, Peter. Review of Amplifier circuits-231
- Review of Annual review of nuclear science-847
- Review of The fundamental atomic constants-149
- Review of International dictionary of physics and electronics -150
- Babcock, Gary C. The "Sagnac" interferometer-311(L)
- Badar, Lawrence (see Deall, Louis)-553(A)
- Baes, Albert V. The role of UNESCO in the teaching of physics -553(A)
- Band, William. Forced vibrations of a harmonic lattice in quantum mechanics-646
- (see Anderson, Gordon D.)-831
- Barker, E. F. Elementary analysis of the gyroscope-533(L)
- Barner, J. and W. Noll. A demonstration nodal device-942(A) Barnes, George. On the importance of studying physics-314(A) 553(A)
- Report of a joint meeting of the AAPT: Northern California-Southern California sections-314
- Barr, E. Scott. Anniversaries in 1962 of interest to physicists-347 Bate, George L. Student experiment on the measurement of nuclear excitation functions 417
- Baxi, Madhuker, B. S. Vibratory Brownian motion-783
- Bemski, George. Studies of the electronic structure of covalent semiconductors by EPR-902

- Bender, D. F., A. S. Leonard, and G. A. McCue. Keeping track of satellites-555(A)
- Bennett, D. M. Apparatus for the demonstration of simple harmonic motion-470
- Bernal, Enrique (see Donnally, Bailey)-550(A)
- Bilaniuk, O. M., V. K. Deshpande, and E. C. G. Sudarshan. "Meta" relativity-718
- Bilaniuk, O. M. (see Hafner, E. M.)-615
- Black, H. T. P.S.S.C. physics in Indiana-550(A)
- Blüh, Otto. The hedgehog and the fox-552(A)
- Bork, Alfred M. The non-linear ruler—451
 A "Two Cultures" physics course—708
- Brady, James J. The regional counselor program in physics-779(A)
- Brehme, R. W. A geometric representation of Galilean and Lorentz transformations-489
- Bretscher, M. M. A student measurement of the diffusion length of thermal neutrons in water by a negative source technique-814
- Brodie, Laird, Cecil Sanford, and Charles Haase. Magnetoresistance of bismuth single crystals-779(A)
- Brooks, John T. (see Telfair, David)-561
- Brown, Sanborn C. Report of the treasurer-558
- Resource letter PP-1 on plasma physics-303
- Review of The plasma state-147
- Review of Radiation and waves in plasmas-611
- Review of Scientific foundations of vacuum technique-612
- Brown, Thomas B. Microwave zone plates-55
- Brown, V. K., Jr. Chicago high school physics teachers association report of the committee on certification-539
- Brown, William Fuller, Jr. Erratum: Single-domain particles: new uses of old theorems-73 Brush, Stephen. The development of the kinetic theory of gases,
- VI. Viscosity-269 Buchdahl, H. A. Remark concerning the eigenvalues of angular
- momentum-829
- Burkhard, Donald G. (see Mizushima, Masataka)-479(A)
- Butler, Al. The overhead projector as a replacement for the blackboard-612(A)
- Calandra, Alexander. Physics in junior high school-553(A)
- Cardwell, A. B. About lecture tables-841(L)
- Carroll, P. J., Jr. and J. J. Kyame. Matrix representation of thermodynamics of multicomponent systems-282
- Castafis, Manuel. Entropy and uncertainty-521
- Christy, R. W. Review of Solid state physics, Vol. 12, Advances in research and applications-936
- Claney, Edward P. Women and physics-626
- Clark, Clifton Bob. Film review: Archimedes' principle-932
- Coffman, Moody L. Source equation for magnetic flux density-926 Cohn, Byron E. Conference on curricula for undergraduate majors in physics-79
- Condon, E. U. Intermediate courses in physics-166
- Cooper, C. B. (see Woodyard, J. R.)-943(A)
- Correll, Malcolm. A+ for teaching-68
 - Film review: Photons and Interference of photons-772
- Intermediate physics courses for the undergraduate physics major-178
- 1962 citations for distinguished service-328
- Cram, S. Winston. Review of Water the mirror of science-608 Cummings, Fred W. Long time transition probabilities for a twolevel system interacting with a stochastic electromagnetic field-898
- Cunningham, John and Robert Karplus. Free fall demonstration experiment-656

Dafter, James R. A note on specific impulse and rocket performance—770

Daly, Raymond and B. J. Hill. Basic semiconductor devices—363 Danforth, William E. William Francis Gray Swann, 1884–1962 —539

Daubin, Scott C. A geometrical introduction to special relativity
-818

Davis, William P., Jr. The senior physics laboratory course at Dartmouth College-565

Davis, William B. and Gerald H. Katzin. The mechanical conservation laws and the physical properties of groups of motions in flat and curved space-times—750

Daw, Harold A. and J. Preston Mitchell. A conservation of momentum experiment—530

Dayton, Irving. Review of Encyclopaedic dictionary of physics-473

---- Toward a more effective introductory laboratory-218

Deall, Louis and Lawrence Badar. Preparatory curriculum for P.S.S.C. physics—553(A)

Dennis, Warren (see Miller, Donald G.)-144

Deshpande, V. K. (see Bilaniuk, O. M.)-718

Desloge, Edward A. Coefficients of diffusion, viscosity, and thermal conductivity of a gas-911

Dewdney, John W. Open air alpha particle counter—a review—140
Diesendruck, L. Electromagnetic fields of a charge and isotropic medium in relative motion—256

Dietrich, Verne E. Joint seminars in physics for colleges—234(A) Dodd, Jack G. Elementary quantities and the uncertainty principle —383

Donnally, Bailey. Experiments with a beta-ray spectrometer in the undergraduate nuclear physics laboratory—780(A)

— and Enrique Bernal. Measurement of spin-lattice relaxation time in a liquid—550(A)

Dosso, H. W. and R. H. Vidal. Large demonstration electroscope —926

---- Simple apparatus for angular motion demonstration-528

Downes, J. G. (see McMahon, G. B.)-603

Downs, B. W. Elementary theory of resonance scattering—248
Dreesen, James A. Review of The Hall effect and related phenomena-145

Dwight, C. Harrison. Review of Instrumental optics-940

- Review of An introduction to physical oceanography-775

Review of Radar observes the weather—661

Edwards, John E. Six nuclear experiments for the beginning physics laboratory—395(A)

Eisele, John A. New techniques in gamma-ray spectroscopy—613(A)
Eldridge, David C., Edward M. Skinner, and J. Tsepas.
Strobe photography with the General Radio 1531-A Strobotac—921
Emrich, Raymond J. New introductory physics courses at Lehigh
University—943(A)

Epstein, J. H. and S. T. Epstein. Some applications of hypervirial theorems to the calculation of average values—266

Epstein, S. T. (see Epstein, J. H.)-266

Eschenbach, R. C. Water temperature measurement-604(L)

Fano, U. Review of Basic concepts of physics-392

Felt, Rev. James W., S.J. Comment on "Significance of the Mach principle"—384

Ferrell, R. A. and E. A. Stern. Plasma resonance in the electrodynamics of metal films—810

Feshbach, Herman. Review of Electromagnetic structure of nu-

-610

--- Review of Physics of the aurora and air glow-940

- Review of Proceedings of the 1960 annual international conference on high energy physics, Rochester-150

Fish, Robert. Report on the teaching of the PSSC physics course in high school—395(A)

Fisher, Michael E. The solution of a combinatorial problem—49 Flake, Golden. Section News: Indiana Section—80

Fowler, John M., William Warren, and Edward Lambe. Lecture demonstration of electron diffraction—891

Fowles, Grant R. Solution of the Schrödinger equation for the hydrogen atom in rectangular coordinates—308

Fox, J. G. The experimental evidence for the second postulate of special relativity—297

Freeman, Ira M. Experimental deduction of the law of centripetal force-421

French, Walter R., Jr. On ways and means-552(A)

Friedman, Francis L. Review of Physics for the inquiring mind-

Friedmann, G. and R. H. Vidal. Modification to an inexpensive interferometer—604(L)

Fuller, Edward C. and R. Ronald Palmer. Brief report of a conference on teaching physics and chemistry in a combined course -388

Fuller, Harold Q. Section News: Missouri Section-781

Gardner, M. E. Maxwell's solution of Kirchhoff's laws and the superposition theorem-567

Garrido, L. M. and J. Sesma. Observables of relativistic particles —887

Gerharz, Reinhold. Need for the establishment of an instrument pool—143(L)

Gerwin, Richard A. Initial value solution of Maxwell's equations in cold plasma—711

Ginsberg, Donald M. Experimental foundations of the BCS theory of superconductivity—433

Gold, T. The arrow of time 403

Goldsmith, Norris W. Open-book tests and certain other practices found to be helpful in the teaching of physics-551(A)

Graham, J. R., Jr. Review of Physical Mechanics (Third Edition)
-777

Gravitt, James C. and Peter Waldow. Note on gravitational red shift-307

Green, John B. Energy balance in extensive air showers—108
Green, T. A. On the derivation of Maxwell's equations and the boundary conditions from Coulomb's law—788

Grossberg, Alan B. Simple ESR experiments at low magnetic fields—927

Grossweiner, Leonard, S. L. Norman, and E. F. Zwieker. Measurement of surface energies of alkali halide crystals—51

Grubin, Carl. Vector representation of rigid body rotation—416
Gunder, Dwight F. Review of Ballistic missile and space vehicle
systems—311

Haase, Charles (see Brodie, Laird)-779(A)

Hadley, Lawrence. Section News: Colorado-Wyoming Section—478
Hafner, E. M. Review of Theoretical physics in the twentieth
century—232

— and O. M. Bilaniuk. Analog display of Ptolemaic and Copernican orbits—615

Hamtil, Charles N. Lagrange's equations and the tensor concept 548(A)

Hane, Michael W. The restless harmonic oscillator-84

Hartka, Theodore J. (see Thomsen, John S.)-26, 368

Haslett, Jared W. A light beam deflection alternative to the Michelson-Morley Experiment—780(A)

Hastings, R. B. and Yung-Yao Shih. Experiments with an electrically operated Kundt tube—512

Hatfield, T. N. Momentum apparatus for laboratory and demonstration—554(A)

Haynsworth, J. Herbert. Optics demonstrations with 3-cm microwaves—781(A)

Heffner, Hubert. Review of Crossed-field microwave devices—312 Hellemann, John J. Elementary treatment of wave phenomena using pulses—944(A)

Helmholz, A. C. Report on a summer institute for high school teachers—549(A)

Herrey, Erna M. J. Practical aspects of the combination of research and teaching-553(A)

Hill, Bert J. Photographing tracks in a diffusion cloud chamber—602
—— (see Daly, Raymond)—363

Hilton, Wallace. Construction and use of a Fabry-Perot interferometer—724 Hobbie, Russell K. A simplified treatment of quantum-mechanical scattering problem using wave packets-857

Hoffman, Dennis G. Elastic deuteron scattering from heavy nuclei -779(A)

Holton, Gerald. Resource letter SRT-1 on special relativity theory -462

Hubig, Werner. On physical geometry-591

Hudson, A. M. Experience with a delayed laboratory schedule-314(A)

Hughson, Robert G. Fission studies using nuclear emulsions-

Hulsiger, Robert, Film review: An experiment in physics-844 Hunt, Hiram M. Oregon Technical Institute's support of research

iona, Mario, FRI in electromagnetism-530

Jackson, Howard. Section News: Michigan Section (fall 1961) -480

- Section News: Michigan Section (spring 1962)-663

Jan. Jean-Pierre. Effective electronic mass tensor, electrical conductivity and Hall effect for spherical energy surfaces-497

Jaynes E. T. Review of Atomic theory and the description of nature-658

- Review of The Fermi curlace 231

- Review of Wave mechanics of crystalline solids-845

Jefimenko, Oleg. Demonstration of the electric fields of currentcarrying conductors-19

- Demonstrations of electric fields of current-carrying conductors -394(A)

Johnston, Kent A. Infrared absorption in germanium-779(A) Jones, C. (see Schwarz, G.)-550(A)

Kaempffer, F. A. Review of Concepts of mass-390

Kane, P. P. Nonconservative nature of electric fields in dc networks containing sources of emf-385

Karpel, Geraldine. Interference and plane of polarization of light 470

Karplus, Robert. Beginning a study in elementary school science

- (see Cunningham, John)-656

Katz, Robert. The magnetic pole in the formulation of electricity and magnetism-41

Katzin, Gerald H. (see Davis, William R.)-750

Kaufman, Charles and Rolf G. Winter. Classical models of radioactive decay-93

Keller, Joseph B. Determination of a potential from its energy levels and undetectability of quantization at high energy-22

Kennard, R. B. Factors affecting precision in the measurement of the speed of light by beginning students-551(A)

Kerlee, D. D. Report on the Denver conference on curricula for undergraduate majors in physics-613(A)

King, Allen L. Review of Analytical foundations of physical statistics-611

- Review of Thermodynamics-76

Review of Thermodynamics of solids-778

Weight and weightlessness-387(L)

Kinitsky, V. A. Kalantaroff dimension system-89

Kline, John V. FBI two gun rules-927

A simple amplification system for PbS photocells-479(A)

Kolb, Kemp Bennett. Relative force between moving charges-929 Wave phenomena from particles-69 Kolossvary, B. G. Nuclear physics laboratories for liberal arts

colleges-552(A) Kranje, Katarina. Simple demonstration experiments in the Abbe

theory of image formation-342

Kraushaar, J. J. (see Parke, E. C.)-479(A)

Kromhout, R. (see Schwarz, G.)-550(A)

Kruglak, Haym. Demonstrations of weightlessness-929 Kruschwitz, Walter H. Some aspects of physics research in non-

Ph.D. granting institutions-745 Kruse, Olan E. Beats and beat notes-840(L)

Kyame, J. J. (see Carroll, P. J., Jr.)-282

Lahti, Arnold M. Section News: Washington Section-612

Lamb. B. C. and M. T. McEllistrem. Comparison of pulsed beam and associated time of flight systems for detection at small angles -81(A)

Lambe, Edward (see Fowler, John M.)-891

Lance, Harvey W. (see Stickler, Warren C.)-478(A)

Landsberg, P. T. On a simple class of combinatorial problems-532

Lanza, Giovanni. Review of Plasma physics-149 Laster, Howard, Review of Gravity-777

- Review of Planets, stars and galaxies-78

Review of Space astrophysics-148

Le Corbelller, P. Review of Analysis of nonlinear control systems

Review of Oscillator circuits-75

Review of Space and time-390

Lee, Bruce and Donald D. Snyder, Reflecting prism for an optical bench screen-767

Lehman, Margaret B. Physics in the two year colleges in California-551(A)

Leifson, S. W. Physics department library vs centralized general library-314(A)

Leonard, A. S. (see Bender, D. F.)-555(A)

Lin. P. P. (see Adams. C. E.)-394

Liu. Chung-beng, Multiple images-380

Livesey, D. L. The Kepler and Rutherford problems: a geometric treatment-629

Lockwood, J. A. Intensity-time variations of the cosmic radiation --10

Lodge, John I. Report of the Denver conference on curricula for undergraduate majors in physics-153

Loeb, Arthur L. A moduledra system for teaching crystal physics

Long. Vernon L. Section News: Oregon Section-778

Louck, James D. Exact normal modes of oscillation of a linear chain of identical particles-585

Lufburrow, Robert A. A screen for optical demonstrations-929

McCay. M. S. Review of Concepts in electricity and magnetism-776 McCue. G. A. (see Bender. D. F.)-555(A)

McCune, J. (see Parke, E. C.)-479(A)

McDonald, James E. Homogeneous nucleation of vapor condensation. Part I-870

McEllistrem, M. T. Spectroscopic calculations for Mn levels-81(A)

- (see Arnett, D.)-81(A)

(see Lamb, R. C.)-81(A)

McGroddy, J. C. (see Stanford, J. L.)-928

McLennan, J. A., Jr. Review of Studies in statistical mechanics, Vol. I-847

McLeod, R. R. (see Tendam, D. J.)-517, 594

McMahon, G. B. and J. G. Downes. A note on the equation of adiabatic saturation-603

McNelll, K. G. (see Prentice, J. D.)-66

McVIttle, G. C. Review of General relativity and gravitational waves -146

Machlup, S. Improved "suspended balloon" experiment-549(A)

Maradudin, A. A. (see Rosenstock, Herbert B.)-330

Marcaccio, William (see Pong, William)-500

Marcley, Robert G. Apparatus drawings project. Accessory apparatus for large electromagnet-453

- Apparatus drawings project. Apparatus for investigating the properties of sound waves-372

- Apparatus drawings project. Impulse-driven torsional mechanical oscillator-115

- Apparatus drawings project. Platinum wedge blackbody-127

--- Apparatus drawings project. Proportional counter-60

- Apparatus drawings project. A versatile RC-filtered low-voltage power supply and a calibrated direct-coupled amplifier-738 - Apparatus drawings project. Versatile z-y projector plotter-439

--- Apparatus drawings project. Vertical circle apparatus-336 - Apparatus drawings project. Whirlygig: a conical pendulum for

centripetal force experiments-221 Martin, Donald C. Section News: Appalachian Section-394 Masket, A. V. and A. C. Vastano. Interior value problems of mathematical physics—548(A)

— Interior value problems of mathematical physics, Part I. Wave propagation—687

- Interior value problems of mathematical physics, Part II. Heat conduction-796

Mathews, Frank S. Some solid-state problems in the earth's crust 478(A)

— Utilizing modern data acquisition techniques in the teaching laboratory—479(A)

Mathieson, A. MeL. A device to demonstrate the reciprocal lattice concept in relation to single-crystal x-ray diffraction patterns—864 Maxwell, E. Review of Rare metals handbook—77

Meiners, Harry F. and Robert Resnick. A reference source for demonstration experiments—139

---- and Stanley A. Williams. Permanent electron diffraction tube-549(A)

Mellen, Walter Roy. Interference of linearly polarized light with perpendicular polarizations—772(L)

Merzbacher, E. The single-valuedness of wave functions—237
Meyer, James W. Review of Experimental cryophysics—610

Meyerhof, Walter E. and Mason R. Yearlan. Post-use review of Elementary modern physics—607

Meyers, Siegfried S. Lead-salt storage cell-470

Michels, Walter C. A look at the Denver conference—an editorial —225

- Report of the editor for the year 1961-397

--- Progress report of the Commission on College Physics-665

The role of experimental work—172

Miller, David L. Electronic modification of Cenco synchronous spark timer—943(A)

Miller, Donald G. Definition of the perfect gas: comments on a paper by Landsberg—384(L)

— and Warren Dennis. On the Kelvin and perfect gas temperatures: reply to Dr. Mapother—144(L)

Miller, Julius Sumner. An interesting observation on the electrophorus—71(L)

— Men and events of science commemorated on postage stamps —551(A)

— Two demonstration devices—385

Miller, Ralph J. Section News: Illinois Section—613

Miller, S. C. and R. M. Wilcox. Classical and spin-orbit effects in Compton scattering—478(A)

Miner, Thomas D. Review of The story of atomic theory and atomic energy-542

Mitchell, J. Preston (see Daw, Harold A.)-530

Mizushima, Masataka and Donald G. Burkhard. Model for the reaction rate constant—479(A)

Moore, Kenneth H. The advanced placement program in physics a progress report—554(A)

Muller, B. H. and J. D. Noble. Nuclear spin-lattice relaxation in ethane—478(A)

Mullin, A. A. Review of Introduction to feedback systems-475

Review of An introduction to Fourier analysis—660
Review of Introduction to transients—391

- Review of Magnetic amplifier analysis-611

- Review of Group theory and its applications to physical problems-774

- Review of Mathematics of modern engineering, Vols. I and II

Review of Numerical analysis-609

operation-621

- Review of Thermoelectricity: science and engineering-78

Munley, Francis E. Beta-ray counting errors due to scattering -943(A)

Nadeau, Gérard. On classical Coulomb scattering-654

— The Lorentz-Einstein transformation obtained by a vector method —602

---- Projectile motion with damping proportional to velocity—619
Natapoff, Marshall. Some physical aspects of electron-receiving-tube

Nawrocki, Paul J. Stress effects due to relativistic contraction-771

Neher, H. V. An air bearing Maxwell top-503

- The role of experimental work-186

Nelson, Rex B. A magnetically driven mechanical resonance apparatus—314(A)

Noble, J. D. (see Muller, B. H.)-478(A)

Noll. W. (see Barner, I.)-942(A)

Norman, S. L. (see Grossweiner, Leonard)-51

O'Connor, Richard T. Section News: Chicago Section—233
—— Section News: Chicago Section—780

Offenbacher, Elmer L. Temple University to offer academic year institute exclusively for physics teachers—48

O'Leary, A. J., and William Swatton. Demonstration of an arrangement to illustrate mass and momentum in lecture by quick accurate measurements of inertial mass plus test of a prediction— 555(A)

---- Demonstration of experiments in the elementary laboratory on scattering and absorption of rays from a radium source-552(A)

Olsen, Leonard. Francis Weston Sears: Oersted medallist for 1960

—399

— The AAPT-AIP regional counselor program in physics (Editorial)

765

Orear, Jay. Can college students master physics without ever at-

tending class?—550(A)

Ortiz. Eddle. An inelastic neutron scattering experiment—634

- Inelastic scattering from iron using a neutron source-554(A)

Overbeck, C. J. Physics in Ghana, Africa—781(A)
Overstreet, Paul C. The physics my grandmother studied in
1849-50—393(A)

Pabbi, Shiv Datt. Analogy between nuclear chain reacting system and vibrating strings and membranes—854

Page, Thornton. Review of The abundance of the elements-79

Review of The atmospheres of Mars and Venus—776

Review of A bibliography of reference books for elementary science—774

- Review of Cosmology-542

- Review of Introduction to space dynamics-608

Review of Life in the universe—609

Review of The nature of thermodynamics—74

Review of Researches on meteorites—773
 Review of The scientific papers of J. Willard Gibbs, Vol. 1
 Thermodynamics and Vol. 11 Dynamics—313

Palmer, Frederic. The electric production of ripples-133

Palmer, R. Ronald (see Fuller, Edward C.)-388

Palmer, W. F. Beats and difference tones-386(L)

Park, David. Review of The mathematical theory of non-uniform gases-389

- Review of Near zero-662

Parke, E. C., J. McCune, C. V. Wells, and J. J. Kraushaar. A laboratory experiment on the Compton effect using scintillation counters—479(A)

Parker, Floyd. An estimation laboratory-551(A)

Patterson, J. D. Density matrix representations-894

Perry, G. E. Electrostatic precipitation-930(L)

Phillips, L. W. Some results of a survey made for the conference on curricula for undergraduate majors in physics—207

Phillips, Melba. Electromotive force again-309(L)

Pierce, W. M. Demonstration of beat pendulums-395(A)

Pong, William and William Marcaccio. Subharmonic oscillations in a piecewise linear system—500

Power, E. A. Positive vs impotent statement of laws-71(L)

Prather, John L. Review of Elementary quantum mechanics—845
Prentice, J. D. and K. G. McNeill. The measurement of the beta spectrum of I¹⁹⁰ in an undergraduate laboratory—66

Priestley, Herbert. Can liberal arts colleges produce doctoral can didates?—583

Pytte, Agnar. Reviews of Lectures on field theory and many-body problem-391

- Review of Quantum theory-662

Quimby, Edith H. Review of Living with the atom—941
—— Review of Pioneers of science—543

Rado, George T. Simple derivation of the electron-nucleus contact hyperfine interaction-716

Rao, K. V. Krishna. Gratings prepared by photographing doubleand multiple-slit Fraunhofer diffraction fringes-106

Raz, B. James. Review of Theory of direct nuclear reactions-543 Renner, N. G. La dolce vita in college physics-552(A)

Resnick, Robert (see Meiners, Harry F.)-139

Rexroad, H. N. Incoherent interference-394(A)

Rezneck, Samuel. An American physicist's year in Europe; Henry A. Rowland, 1875-1876-877

Rhodes, Jacob L. Section News: Central Pennsylvania Section-943 Ricks, Robert S. Snap-off diode-779(A)

Riggs, James W. An undergraduate research program in molecular spectroscopy-551(A)

Ringhofer, R. Resonance phenomena on electric oscillators-554(A) Robinson, Myron. A history of the electric wind-366

Rogers, Eric M. Molecular size-549(A)

Rosenstock, Herbert B. Specific heat of a particle in a box-38 - and A. A. Maradudin. On certain combinatorial problems-330

Rosser, W. G. V. A second-order electric field due to a conduction current-500

Salter, Lewis, Combined physics-chemistry courses in the undergraduate curriculum-781(A)

Sanford, Ceell (see Brodie, Laird)-779(A)

Santarelli, Vincent. Elementary but exact treatment of a dipole ring-125

- Erratum: Exact treatment of a dipole ring-606

Sawyer, Raymond B. Review of Fundamentals of modern physics-937

Schamp, Homer W., Jr. Independence of the first and second laws of thermodynamics-825

Schilling, Harold K. Independent study and research in the undergraduate physics curriculum-191

Schlegel, Richard. Special relativity theory and space time-841(L) Schooley, Jean. Satellite orbit simulator-531

Schramm, R. W. An improved ballistic pendulum-386

Schwartz, H. M. Axiomatic deduction of the general Lorentz transformation-697

Schwarz, G., R. Kromhout, and C. Jones. An improved rotational dynamics apparatus-550(A)

Scott, F. R. Review of Molecular physics-658 Review of Plasmas and controlled fusion-73

Scott, William T. Review of The atomic problem-144

Electron levels, electrochemical effects, and thermoelectricity-727

Sears, Francis W. The most important thing-401 Seeger, Raymond J. On Newton's second law-930(L)

- Review of Chladni figures-a study in symmetry-935

- Review of Fluid mechanics-392

- Review of A history of astronomy-934

-- Review of Introduction to hypersonic flow-934

--- Review of Lectures in theoretical physics vol. III-389

- Review of The method of functionals in the quantum theory of fields-933

Review of Scientists; their psychological world-933

Seifert, Howard A. The stop-light dilemma-216

Sesma, J. (see Garrido, L. M.)-887

Shaw, R. Length contraction paradox-72(L)

Sherman, N. K. (see Armstrong, H. L.)-528

Shewell, John Robert. A note on the exclusion principle-140

Shih, Yung-Yao (see Hastings, R. B.)-512

Shureliff, William A. Resource letter PL-1 on polarized light-227 Sleckmann, E. F. Approximate elimination of the periodic lattice potential in the electron transfer method-80(A)

Sims, W. H. Track density characteristics of liquid hydrogen bubble chambers-393(A)

Skinner, Edward M. (see Eldridge, David C.)-921

Smith, Roy E. Section News: Wisconsin Section-780

Snow, Richard E. (see Tendam, D. J.)-594

Snyder, Donald D. Research with undergraduate students-554(A) (See Lee, Bruce)-767

Spees, Adam H. Oil drop experiment for electronic charge-70

Sprawls, Perry, Jr. Showing difficult classroom demonstrations by the projection method-548(A)

Stanford, J. L. and J. C. McGroddy. Comments on second-order electric field due to conduction currents-928 Stephenson, Harold P. Transient conditions in the operation of

Atwood's machine-554(A) Stephenson, Reginald J. Arthur Holly Compton (1892-1962)-843

Stern, E. A. (see Ferrell, Richard A.)-810 Stevenson, James R. Science fair projects in physics-656(L)

Stewart, Albert B. Bradley at Kew-552(A)

Stickler, Allen. Thermal imagery: new medium for demonstrating phenomena in heat and thermal radiation-300

Stickley, E. E. Review of Molecular biophysics-847

Review of Particle accelerators-940

Stockman, Harry E. Demonstration of the Doppler effect-307 Straley, Joseph W. Effective utilization of graduate assistants in a teaching capacity-548(A)

Strickler, Warren C. and Harvey W. Lance, Precision measurements: a neglected science-478(A)

Stull. John L. Linear air trough-a modification-839

Subudhi, K. S. and P. Tiwari, Comparison of Simon's and Van de Graaff's theories of the electrostatic generator-333

Sudarshan, E. C. G. (see Bilaniuk, O.M.)—718 Sussman, Milton H. Fresnel diffraction with phase objects—44 Svonavec, Michael. Dip-energy of the two gamma or x-rays with small energy separation-780(A)

- Heuristic interpretation of the hyperbolic relation for density-233(A)

Swan, Frederick W. Review of The nature of violent storms-77 Review of The release and use of atomic energy-778 Swatton, Wallace (see O'Leary, A. J.)-555(A)

Tanner, Raymond L. Yellow shift-310(L)

Taylor, H. W. (see Whyte, G. N.)-120

Telfair, David and John T. Brooks. Motion subject to a central force: an apparatus for demonstrating orbital stability-561

Tellegen, B. D. H. Magnetic-dipole models-650

Tendam, D. J. and R. R. McLeod. The production of instructional films with university facilities-517

-, R. R. McLeod, and Richard E. Snow. An experimental evaluation of the use of instructional films in college physics-594 Then, John W. An experimental study of the motional electric field-411

Thomsen, John S. A restatement of the zeroth law of thermodynamics-294

- and Theodore J. Hartka. Strange Carnot cycles: thermodynamics of a system with a density extremum-26

and Theodore J. Hartka. Erratum: Strange Carnot cycles-368

Thorpe, James F. On the momentum theorem for a continuous system of variable mass-637

Tiwari, P. (see Subudhi, K. S.)-333

Trimmer, J. D. Review of Inertial guidance-937

Tsepas, James (see Eldridge, David C.)-921

Turner, Louis A. Further remarks on the zeroth law-804 - Simplification of Carathéodory's treatment of thermodynamics II-506

Van Name, F. W., Jr. Review of Biography of physics-147

Review of Elements of Hamiltonian mechanics-474

- Review of Introduction to the theory of Newtonian attraction-

- Review of Theoretical physics-935

Vastano, A. C. (see Masket, A. V.)-548(A), 687, 796

Verbrugge, Frank. How shall we prepare physics majors?-138 - Proceedings of the association-thirty-first annual meeting-546

Vidal, R. H. (see Friedmann, G.)-604(L) --- (see Dosso, H. W.)-528

--- (see Dosso, H. W.)-926

Waage, Harold. Demonstration experiments on fluid flow-549(A) Waldow, P. (see Gravitt, James C.)-307

Warren, Kenneth Lyle. Apparatus for an experiment in photometry -768

Warren, William (see Fowler, John M.)-891

Watson, Fletcher G. Preparation for teaching physics in secondary schools-199

Weber, J. Comments on McVittie's review of General relativity and gravitational waves-605(L)

Weber, Louis R. What the West can learn from the East-479(A) Weber, Robert L. Films for students of physics, supplement I-321 - Listing of British films-606

Review of Physics and chemistry: a unified approach (Book I and II)-476

Weinberg, E. H. Resonance absorption-654

Weinstock, Robert. Two common textbook errors: Brewster's Law and Huygens' Principle-549(A)

Kepler's third law for elliptical orbits-813

Weller, Richard I. An experiment on airborne particulate activity-943(A)

Wells, C. V. (see Parke, E. C.)-479(A)

Weltin, Hans. Center of mass-471

- Hooked weights-310(L)

Light beats-653

Wheeler, Samuel C., Jr. An alternate derivation of the excess pressure inside a spherical drop-528

Whitten, R. C., Jr. Review of Analytical mechanics-938

Whyte, G. N. and H. W. Taylor. A radioactivity experiment using activities filtered from the air-120

Wilcox, R. M. (see Miller, S. C.)-478

Wilhoyte, W. L. (see Adams, C. E.)-394

Williams, Stanley A. (see Meiners, Harry F.)-549(A)

Williams, T. Walley, III. Apparatus drawing project. Launching tube for a laboratory experiment on projectile motion-851

- Apparatus drawings project. A versatile mercury reservoir for demonstrating properties of gases and vapors-807

Williamson, Charles. Review of Experimentation and measurement-939

- Review of Handbook of electronic charts and nomographs-231

- Review of The science masters' book, series 4, part I-Physics-474

My year of high school teaching in North Louisiana-553(A)

Winans, John Gibson. The dimensions of #-550(A) Winch, Ralph P. Annual business meeting-557

Minutes of the annual meeting of the council-555

Winsberg, Lester. Some aspects of high energy physics-234(A)

Winter, Rolf G. (see Kaufman, Charles)-93

Wisner, Robert J. Recommendations on the undergraduate mathematics program for engineers and physicists-569

- What's happening to calculus?--483

Wolfe, Otis K. Section News: Kentucky Section (spring 1961)-80 - Section News: Kentucky Section (fall 1961)-393

Section News: Kentucky Section (spring 1962)-942

Wood, Elisabeth A. Moiré patterns-a demonstration-381

Woodyard, J. R. and C. B. Cooper. Design and construction of a 90° sector field mass spectrometer for low energy sputtering studies -943(A)

Worley, R. Edwin. Impact demonstration with plastic croquet balls -769

Worrell, Francis T. Review of Physics and archaeology-148

A review of recent British texts in electricity and magnetism-641

Review of What is calculus about?-938

Yeagley, Henry L. A new teaching tool for astronomy-943(A) Yearian, Mason R. (see Meyerhof, Walter E.)-607 Youngner, Philip. Section Meeting: Minnesota Section-394

Zajac, Alfred. Reply to Babcock's note, the "Sagnac" interferometer -310(L)

Zemansky, Mark W. Introductory courses in physics major curricula -163

Zimmerman, E. J. The macroscopic nature of space-time-97

- Reply to Professor Schlegel-841(L)

Zorn, Jens C. Ray Lee Edwards ceremonial volume-559

Zucker, Charles, An inexpensive nuclear laboratory-16

Zwieker, Earl. Science fairs-234(A)

- (see Grossweiner, Leonard)-51

Analytic Subject Index to Volume 30

In this index are listed titles of articles and notes, together with the names of their authors. Classification is based upon analyses of contents of the articles, rather than upon the titles alone. The symbol (A) designates an abstract of a paper read at a meeting, (L) designates a Letter to the Editor. To facilitate reference to any desired subject, this index is divided into sections arranged alphabetically. The titles of these sections are as follows:

Accelerators
Acoustics (see Sound)
Aerophysics
American Association of Physics Teachers
Apparatus, demonstration
Apparatus, general
Apparatus, laboratory
Astrophysics
Biophysics

Astrophysics
Biophysics
Books
Cosmic rays
Demonstrations
Department administration, maintenance, and activities

Editorials
Education, physics, and science
Electricity and magnetism
Electronics

Electronics Experiments Films General physics, educational aspects General physics, instructional techniques Geophysics

Heat and thermodynamics History and biography Laboratory arts and techniques Laboratory organization and operation

Mathematics
Mechanics, classical
Mechanics, quantum
Mechanics, statistical
Meteorology (see aerophysics)

Microwaves
Modern physics
Nuclear physics
Optics (see Light)
Particles, elementary
Philosophy of science
Plasma physics

Properties of matter Reactors Relativity Reports, announcements, and news Research and teaching

Research, undergraduate Rockets Satellites Secondary school physics Social and economic aspect of science

Solid-state physics
Sound
Space physics
Teacher training

Testing, theory and techniques Textbooks (see Books) Units, dimensions, and terminology Visual materials and methods

X rays

Aerophysics

Attenuation of sound at high altitudes, Robert C. Amme—479(A) Book review: The nature of violent storms by Louis J. Battan, Frederick W. Swan—77

Book review: Physics of the aurora and air glow by J. W. Chamberlain, Herman Feshbach-940

Book review: Radar observes the weather, Louis J. Battan, C. Harrison Dwight-661

AAPT

A+ for teaching, Malcolm Correll-68

The AAPT-AIP regional counselor program in physics, Leonard O. Olsen-765

American Association of Physics Teachers, Table of organization for 1962-534

Annual business meeting, Ralph P. Winch-557

Apparatus competition-766

1962 citations for distinguished service, Malcolm Correll—328 Francis Weston Sears: Oersted medallist for 1960, Leonard Olsen

Minutes of the annual meeting of the council, Ralph P. Winch -555

The most important thing, Francis W. Sears-401

New members of the association—81, 151, 234, 315, 395, 480, 544, 614, 663, 781, 849, 944

Proceedings of the association, Thirty-first annual meeting, Frank Verbrugge—546

Report of the editor for the year 1961, Walter C. Michels—397
Report of the membership committee to the council of the association (AAPT), C. Luther Andrews—472

Report of the treasurer, Sanborn C. Brown-558

Section news: Appalachian section, Donald C. Martin—394
Section news: Central Pennsylvania section, Jacob L. Rhodes—943

Section news: Chicago section, Richard T. O'Connor-233, 780 Section news: Colorado-Wyoming section, Lawrence Hadley-478

Section news: Illinois section, Ralph J. Miller—613 Section news: Indiana section, Golden Flake—80

Section news: Kentucky section (spring 1961), Otis K. Wolfe-80 Section news: Kentucky section (fall 1961), Otis K. Wolfe-393

Section news Kentucky section (spring 1962), Otis K. Wolfe—942 Section news: Michigan section (fall 1961), Howard Jackson—480 Section news: Michigan section (spring 1962), Howard Jackson—663

Section news: Minnesota section, Philip Youngner—394
Section news: Missouri section, Harold Q. Fuller—781

Section news: Missouri section, Northern California section and Southern California section, George Barnes—314

Section news: Oregon section, Vernon L. Long—778
Section news: Washington section, Arnold M. Lahti—612
Section news: Wisconsin section, Roy E. Smith—780

Apparatus, demonstration

Apparatus drawings project. Accessory apparatus for large electromagnet, Robert G. Marcley-453

Apparatus drawings project. Versatile mercury reservoir for demonstrating properties of gases and vapors, T. Walley Williams, III --807

Apparatus drawings project. Versatile x-y projector plotter, Robert G. Marclev-439

Apparatus drawings project. Vertical circle apparatus, Robert G. Marcley—336

Apparatus drawings project. Whirlygig: a conical pendulum for centripetal force experiments, Robert G. Marcley—221

Basic semiconductor devices, Raymond Daly and B. J. Hill—363 Demonstration of beat pendulums, W. M. Pierce—395(A) Demonstration of the Doppler effect, Harry E. Stockman—307

A demonstration nodal device, J. Barner and W. Noll—942(A) A device to demonstrate the reciprocal lattice concept in relation to

single-crystal x-ray diffraction patterns, A. McL. Mathieson—864
An interesting observation on the electrophorus, Julius Sumner
Miller—71(L)

Large demonstration electroscope, H. W. Dosso and R. H. Vidal -926

Lecture demonstration of electron diffraction, John M. Fowler, William Warren, and Edward Lambe—891

Microwave Doppler demonstration, C. L. Andrews—549(A)

A new teaching tool for astronomy, Henry L. Yeagley—943(A)

Now available: a volume of reprints of articles on apparatus—73

Photographing tracks in a diffusion cloud chamber, Bert J. Hill -602

A reference source for demonstration experiments, Harry F. Meiners and Robert Resnick-139

A screen for optical demonstrations, Robert A, Lufburrow—929
Simple apparatus for angular motion demonstration, H. W. Dosso and R. H. Vidal—528

Thermal imagery: new medium for demonstrating phenomena in heat and thermal radiation, Allen Strickler—300

Apparatus, general

Hooked weights, Hans Weltin-310(L)

Need for the establishment of an instrument pool, Reinhold Gerharz-143(L)

Subharmonic oscillations in a piecewise linear system, William Pong and William Marcaccio—500

Apparatus, laboratory

An air bearing Maxwell top, H. V. Neher-503

Apparatus drawings project. Accessory apparatus for large electromagnet, Robert G. Marcley---453

Apparatus drawings project. Apparatus for investigating the properties of sound waves, Robert G. Marcley—372

Apparatus drawings project. Impulse-driven torsional mechanical oscillator, Robert G. Marcley—115

Apparatus drawings project. Launching tube for a laboratory experiment on projectile motion, T. Walley Williams III-851

Apparatus drawings project, Platinum wedge blackbody, Robert G. Marcley—127

Apparatus drawings project. Proportional counter, Robert G. Marcley —60

Apparatus drawings project. A versatile RC-filtered low-voltage power supply and a calibrated direct-coupled amplifier, Robert G. Marcley—738

Marcley—738
Apparatus drawings project. Vertical circle apparatus, Robert G.
Marcley—336

Apparatus for an experiment in photometry, Kenneth Lyle Warren --- 768

Electronic modification of Cenco synchronous spark timer, David L. Miller-943(A)

An improved ballistic pendulum, R. W. Schramm-386

An improved rotational dynamics apparatus, G. Schwarz, R. Kromhout, and C. Jones-550(A)

An inexpensive nuclear laboratory, Charles Zucker—16

Linear air trough-a modification, John L. Stull-839

A magnetically driven mechanical resonance apparatus, Rex R. Nelson-314(A)

Modification to an inexpensive interferometer, G. Friedmann and R. Vidal-604(L)

Momentum apparatus for laboratory and demonstration, T. N. Hat-field-554(A)

Now available: a volume of reprints of articles on apparatus—73 Nuclear physics laboratories for liberal arts colleges, B. G. Ko-

lossvary—552(A)

Open air alpha particle counter—a review, John W. Dewdney—140

Parmanent electron diffraction tube. Harry F. Mainers and Stanley.

Permanent electron diffraction tube, Harry F. Meiners and Stanley A. Williams—549(A)

A radioactivity experiment using activities filtered from the air, G. N. Whyte and H. W. Taylor—120

Reflecting prism for an optical bench screen, Bruce Lee and Donald D. Snyder—767

Resonance phenomena on electric oscillators, R. Ringhofer—554(A)

A simple amplification system for PbS photocells, John V. Kline
479(A)

Astrophysics

Analog display of Ptolemaic and Copernican orbits, E. M. Hafner and O. M. Bilaniuk-615

Book review: The atmospheres of Mars and Venus by W. K. Kellogg and Carl Sagan, Thornton Page-776

Book review: Cosmology by H. Bondi, Thornton Page-542

Book review: Life in the universe by Michael W. Ovenden, Thornton Page-609

Book review: Researches on Meteorites, edited by Carlton B. Moore, Thornton Page-773

Biophysics

Book review: Life in the universe by Michael W. Ovenden, Thornton Page-609

Book review: Molecular biophysics by Richard B. Setlow and Ernest C. Pollard, E. E. Stickley-846

Donks.

Book review: The abundance of the elements by Lawrence H. Aller, Thornton Page-79

Book review: Advanced level physics by M. Nelkon and P. Parker, H. L. Armstrong—312

Book review: Amplifier circuits by Thomas M. Adams, Peter Axel -231

Book review: Analysis of non-linear control systems by D. Graham and D. McRuer, P. Le Corbeiller-390

Book review: Analytical foundations of physical statistics, authorized English edition by A. I. Khinchin, Allen L. King-611

Book review: Analytical mechanics by Grant R. Fowles, R. C. Whitten, Jr.-938

Book review: Annual review of nuclear science, Peter Axel—847 Book review: The atmospheres of Mars and Venus by W. K. Kellogg and Carl Sagan, Thornton Page—776

Book review: The atomic problem by Lancelot Law Whyte, William T. Scott-144

Book review: Atomic theory and the description of nature by Niels Bohr, E. T. Jaynes-658

Book review: Ballistic missile and space vehicle systems edited by Howard S. Seifert and Kenneth Brown, Dwight F. Gunder—311 Book review: Basic concepts of physics by Chalmers W. Sherwin, U. Fano—392

Book review: A bibliography of reference books for elementary science by G. C. Mallinson and J. B. Mallinson, Thornton Page

—774

Book review: Biography of physics by George Gamow, F. W. Van Name, Ir.—147

Book review: Chładni figures—a study in symmetry by Mary Désirée Waller, Raymond J. Seeger—935

Book review: Concepts in electricity and magnetism by Reuben Benumof, M. S. McCay-776

Book review: Concepts of mass by Max Jammer, F. A. Kaempsfer -390

Book review: Cosmology by H. Bondi, Thornton Page-542

Book review: Crossed-field microwave devices, E. Okress, Editor-in-Chief, Hubert Heffner-312

Book review: Dispersion relations and elementary particles by M. L. Goldberger, A. S. Wightman, R. Omnes, G. Kellen, G. F. Chew, S. B. Treiman, and Y. Yamaguchi, Ralph Amado—75

Book review: Electromagnetic structure of nucleons by S. D. Drell and F. Zachariasen, Herman Feshbach—145

Post-use review of Elementary modern physics by Weidner and Sella, Walter E. Meyerhof and Mason R. Yearian—607

Book review: Elementary quantum mechanics by Peter Fong, John L. Prather-845

Book review: Encyclopaedic dictionary of physics, Vol. 1, Editorin-Chief J. Thewlis, Irving Dayton-473

Book review: Experimental cryophysics by F. E. Hoare, L. C. Jackson, and N. Kurti, James W. Meyer—610

Book review: Experimentation and measurement by W. J. Youden, Charles Williamson-939

Book review: The Fermi surface edited by W. A. Harrison and M. B. Webb, E. T. Jaynes-231

Book review: Fluid mechanics by Richard H. F. Pao, Raymond J. Seeger-389

Book review: The fundamental atomic constants by J. H. Sanders, Peter Axel-149

Book review: Fundamentals of modern physics by Robert M, Eisberg, Raymond B. Sawyer-937 Book review: General relativity and gravitational waves by J. Weber, G. C. McVittie—146

Book review: Gravity by George Gamow, Howard Laster-777 Book review: Group theory and its applications to physical problems by Morton Hamermesh, Albert A. Mullin-774

Book review: The Hall effect and related phenomena by E. H. Putley, James A. Dreesen-145

Book review: Handbook of electronic charts and nomographs by Allen Lytel, Charles Williamson—231

Book review: A history of astronomy by A. Pannekoek, Raymond J. Seeger-934 Book review: Inertial guidance by George R. Pitman, Jr, J. D.

Trimmer—937

Book review: Instrumental optics by G. A. Boutry, G. Harrison

Dwight—940

Book review: International dictionary of physics and electronics, Walter C. Michels, Editor-in-Chief, Peter Axel—150

Book review: Introduction to feedback systems by L. Dale Harris, A. A. Mullin-475

Book review: Introduction to Fourier analysis by R. D. Stuart, Albert A. Mullin-660

Book review: Introduction to hypersonic flow by G. G. Cherni, Raymond J. Seeger—934 Book review: An Introduction to physical oceanography by William

S. Von Arx, C. Harrison Dwight-775
Book review: An introduction to relativistic quantum field theory

book review: Introduction to recurrence by William Tyrrell
Book review: Introduction to space dynamics by William Tyrrell

Thomson, Thornton Page—608
Book review: Introduction to the theory of Newtonian attraction,

Book review: Introduction to the theory of Newtonian attraction,
A. S. Ramsey, F. W. Van Name, 17.—844

Rock review: Introduction to transfer by D. F. McClarus A. A.

Book review: Introduction to transients by D. K. McCleery, A. A. Mullins-391

Book review: Lectures on field theory and the many-body problem edited by E. R. Gaianiello, Agnar Pytte-391

Book review: Lectures in theoretical physics, Vol. 111 edited by W. E. Brittin, B. W. Downs, and J. Downs, Raymond J. Seeger -389

Book review: Life in the universe by Michael W. Ovenden, Thornton Page-609

Book review: Living with the atom by Ritchie Calder, Edith H. Ouimby-941

Book review: Magnetic amplifier analysis by David L. Lafuze, A. A. Mullin-611

Book review: The mathematical theory of non-uniform gases by S. Chapman and T. G. Cowling, David Park-389

Book review: Mathematics of modern engineering, Vols. I and II by Ernest G. Keller and Robert E. Doherty, A. A. Mullin-475 Book review: The method of functionals in the quantum theory of

fields by Novozilhilov and Tulub, Raymond J. Seeger—933
Book review: Molecular biophysics by Richard B. Setlow and Ernest
C. Pollard, E. E. Stickley—846

Book review: Molecular physics edited by Dudley Williams, F. R. Scott—658

Book review: The nature of thermodynamics by P. W. Bridgman, Thornton Page-74

Book review: The nature of violent storms by Louis J. Battan, Frederick W. Swan-77

Book review: Near zero by D. K. C. MacDonald, David Park -662

Book review: Numerical analysis by Zdeněk Kopal, A. A. Mullin —609

Book review: Oscillator circuits by Thomas M. Adams, P. Le Corbeiller-75

Book review: Particle accelerators by Stanley Livingston and John P. Blewett, E. E. Stickley—940

Book review: Physics and archaeology by M. J. Aitken, Francis T. Worrell—148

Book review: Physics of the aurora and air glow by J. W. Chamberlain, Herman Feshbach-939

Book review: Physics and chemistry: a unified approach (books 1 and 11) by John C. Hogg, Charles L. Bickel, and Elbert P. Little, Robert L. Weber-476

Book review: Physics for the inquiring mind by Eric M. Rogers, Francis L. Friedman-660

Book review: Physical mechanics by R. B. Lindsay, J. R. Graham, Jr.-777

Book review: Pioneers of science by Sir Cliver Lodge, Edith Quimby-543

Book review: Planets, stars, and galaxies by Stuart J. Inglis, Howard Laster-78

Book review: Plasma physics by James E. Drummond, Giovanni Lanza-149

Book review: The plasma state by E. J. Hellund, Sanborn C. Brown—147

Book review: Plasmas and controlled fusion by David J. Rose and Melville Clark, Jr., F. R. Scott-73

Book review: Proceedings of the 1960 annual international conference on high energy physics, Rochester, Herman Feshbach—150 Book review: Quantum theory edited by D. R. Bates, A. Pytte—662 Book review: Radar observes the weather by Louis J. Battan, C. Harrison Dwight—661

Book review: Radiation and waves in plasmas edited by Morton Mitchner, Sanborn C. Brown-611

Book review: Rare metals handbook edited by Clifford A. Hampel, E. Maxwell—77

Book review: The release and use of atomic energy by T. E. Allibone, Frederick W. Swan-778

Book review: Researches on meteorites edited by Carlton B. Moore, Thornton Page-773

Book review: The science masters' book, series 4, part I—Physics edited by W. H. Dowland, J. M. Osborne, W. Pearson, and J. S. Strettan, Charles Williamson—474

Book review: Scientific foundations of vacuum technique by Saul Dushman, Sanborn C. Brown-612

Book review: The scientific papers of J. Willard Gibbs, Vol. 1.
Thermodynamics and Vol. II. Dynamics, Thornton Page—313

Book review: Scientists, their psychological world by Bernice T. Eiduson, Raymond J. Seeger-933

Book review: Solid state physics, Vol. 12, Advances in research and applications by F. Seits and D. Turnbull, R. W. Christy—936
Book review: Space and time by Emile Borel, P. Le Corbeiller—
390

Book review: Space astrophysics edited by William Liller, Howard Laster—148

Book review: States of matter by E. A. Moelwyn-Hughes, H. L. Armstrong-932

Book review: The story of atomic theory and atomic energy by J. G. Feinberg, Thomas D. Miner-542

Book review: Studies in statistical mechanics, Vol. I, J. A. Mc-Lennan, Jr.—847

Book review: Theoretical physics by Gerhard A. Blass, F. W. Van Name, Jr.—935

Book review: Theoretical physics in the twentieth century edited by M. Fiertz and V. F. Weisskopf, E. M. Hafner—232

Book review: Theory of direct nuclear reactions by W. Tobacman, B. James Rax-543

Book review: Thermodynamics by P. T. Landsberg, Allen L. King

Book review: Thermodynamics of solids by R. A. Swalin, Allen L. King-778

Book review: Thermoelectricity: Science and engineering by Robert R. Heikes and Roland W. Ure, Jr., A. A. Mullin-78

Book review: Treasury of world science by Dagobert D. Runes, Arnold Arons—936

Book review: Water, the mirror of science by Kenneth S. Davis and John Arthur Day, S. Winston Cram-608

Book review: Wave mechanics of crystalline solids by R. A. Smith, E. T. Jaynes-845

Book review: What is calculus about? by W. W. Sawyer, Francis T. Worrell-938

A review of recent British texts in electricity and magnetism, Francis T. Worrell-641

Cosmic rays

Energy balance in extensive air showers, John R. Green—108 Intensity-time variations of the cosmic radiation, J. A. Lockwood —10

Demonstrations

Analog display of Ptolemic and Copernican orbits, E. M. Hafner and O. M. Bilaniuk-615

Apparatus for the demonstration of simple harmonic motion, D. M. Bennett-470

Beats and difference tones, W. F. Palmer-386(L)

Center of mass, Hans Weltin-471

Demonstration of an arrangement to illustrate mass and momentum in lecture by quick accurate measurement of inertial mass plus test of a prediction, A. J. O'Leary and William Swatton—555(A) Demonstration of the electric fields of current-carrying conductors,

Oleg Jefimenko-19

Demonstration experiments on fluid flow, Harold Waage-549(A)

Demonstrations of weightlessness, Haym Kruglak—929 An electric-mechanical analog, Andrew Ahlgren—654

Electrophorus for lecture demonstrations, D. S. Ainslie-69

Elementary treatment of wave phenomena using pulses, John J. Heilemann—944(A)

An experimental evaluation of the use of instructional films in college physics, D. J. Tendam, R. R. McLeod, and Richard E. Snow-594

The free-fall demonstration experiment, John Cunningham and Robert Karplus-656

Impact demonstrations with plastic croquet balls, R. Edwin Worley -769

Interference of linearly polarized light with perpendicular polarizations, Walter Roy Mellen-772(L)

Interference and plane of polarization of light, Geraldine Karpel -470

Microwave Doppler demonstration, C. L. Andrews-549(A)

A moduledra system for teaching crystal physics, Arthur L. Loeb -554(A)

Molecular size, Eric M. Rogers-549(A)

Momentum apparatus for laboratory and demonstration, T. N. Hatfield-554(A)

Motion subject to a central force: an apparatus for demonstrating orbital stability, David Telfair and John T. Brooks-561

Optics demonstrations with 3-cm microwaves, J. Herbert Haynsworth—781(A)

The production of instructional films with university facilities, D. J. Tendam and R. R. McLeod—517

Resonance absorption, E. H. Weinberg-654 Satellite orbit simulator, Jean Schooley-531

Showing difficult classroom demonstrations by the projection method, Perry Sprawls, Jr.—548(A)

Simple apparatus for angular motion demonstration, H. W. Dosso and R. H. Vidal-528

Two demonstration devices, Julius Sumner Miller-385

Department administration, maintenance, and activities

Some aspects of physics research in non-Ph.D. granting institutions, Walter H. Kruschwitz-745

Editorials

The AAPT-AIP regional counselor program in physics, Leonard O. Ofsen-765

A+ for teaching, Malcolm Correll-68

How shall we prepare physics majors? Frank Verbrugge-138

Education, Physics, and Science

The AAPT-AIP regional counselor program in physics, Leonard O. Olsen-765

A+ for teaching, Malcolm Correll-68

The advanced placement program in physics—a progress report, Kenneth H. Moore—554(A)

Beginning a study in elementary school science, Robert Karplus —1

Book review: A bibliography of reference books for elementary science by G. C. Mallinson and J. B. Mallinson, Thornton Page -774

Book review: Physics and chemistry: a unified approach (books I and II) by John C. Hogg, Charles L. Bickel, and Elbert P. Little, Robert L. Weber-476

Book review: The science masters' book, series 4, part I—Physics edited by W. H. Dowland, J. M. Osborne, W. Pearson, and J. S. Strettan, Charles Williamson—474

Brief report of a conference on teaching physics and chemistry in a combined course, Edward C. Fuller and R. Ronald Palmer—388 Can college students master physics without ever attending class? Jay Orear—550(A)

Can liberal arts colleges produce doctoral candidates? Herbert Priestley—583

Combined physics-chemistry courses in the undergraduate curriculum. Lewis Salter—781(A)

Conference on curricula for undergraduate majors in physics, Byron E. Cohn-79

La dolce vita in college physics, N. G. Renner-552(A)

Effective utilization of graduate assistants in a teaching capacity, Joseph W. Straley—548(A)

An experimental evaluation of the use of instructional films in college physics, D. J. Tendam, R. R. McLeod, and Richard E. Snow-594

The free-fall demonstration experiment, John Cunningham and Robert Karplus-656

The hedgehog and the fox, Otto Blüh-552(A)

How shall we prepare physics majors? Frank Verbrugge—138 On the importance of studying physics, George Barnes—314(A), 553(A)

The most important thing, Francis W. Sears-401

My year of high school teaching in North Louisiana, Charles Williamson-553(A)

Open-book tests and certain other practices found to be helpful in the teaching of physics, Norris W. Goldsmith—551(A)

Oregon Technical Institute's support of research, Hiram M. Hunt 779(A)

Physics department library vs centralized general library, S. W. Leifson-314(A)

Physics in Ghana, Africa, C. J. Overbeck-781(A)

Physics in junior high school, Alexander Calandra-553(A)

The physics my grandmother studied in 1849-50, Paul C. Overstreet-393(A)

Physics in the two-year colleges in California, Margaret B. Lehman —551(A)

Practical aspects of the combination of research and teaching, Erna M. J. Herrey—553(A)

Precision measurements: a neglected science, Warren C. Stickler and Harvey W. Lance—478(A)

Preparatory curriculum for P.S.S.C. physics, Louis Deall and Lawrence Badar—553(A)

Progress report of the commission on college physics, Walter C. Michels—665

PSSC physics in Indiana, H. T. Black-550(A)

Recommendations on the undergraduate mathematics program for engineers and physicists, Robert Wisner—569

The regional counselor program in physics, James J. Brady—779(A) Report on the Denver conference on curricula for undergraduate majors in physics, D. D. Kerlee—613(A)

Report on a summer institute for high school teachers, A. C. Helmholz-549(A)

Report on the teaching of the PSSC physics course in high school, Robert Fish—395(A)

Research with undergraduate students, Donald D. Snyder—554(A)
The role of UNESCO in the teaching of physics, Albert V. Baez
—553(A)

Science fairs, Earl Zwicker-234(A)

Science fair projects in physics, James R. Stevenson—656(L) On ways and means, Walter R. French, Jr.—552(A)

Electricity and magnetism

Apparatus drawings project. Accessory apparatus for large electromagnet, Robert G. Marcley—453

Book review: Concepts in electricity and magnetism by Reuben Benumof, M. S. McCay-776

Book review: Introduction to feedback systems by L. Dale Harris, A. A. Mullin-475

Book review: Introduction to Fourier analysis by R. D. Stuart, Albert A. Mullin-660 Book review: Introduction to transients by D. K. McCleery, A. A.

Book review: Magnetic amplifier analysis by David L. Lafuze,

A. A. Mullin—611 Book review: Radiation and waves in plasma edited by Morton Mitchner, Sanborn C. Brown—611

Comments on second-order electric field due to conduction currents, J. L. Stanford and J. C. McGroddy—928

Comparison of Simon's and Van de Graafi's theories of the electrostatic generator, K. S. Subudhi and P. Tiwari—333

Demonstration of the electric fields of current-carrying conductors, Oleg Jefimenko-19

Demonstrations of electric fields of current carrying conductors, Oleg Jefimenko-394(A)

A demonstration of the magnetic mirror effect, Ronald J. Allen —867

On the derivation of Maxwell's equations and the boundary conditions from Coulomb's law, T. A. Green-788

Effective electronic mass tensor, electrical conductivity, and Hall effect for spherical energy surfaces, Jean-Pierre Jan-497

An electric-mechanical analog, Andrew Ahlgren—654
The electric production of ripples, Frederic Palmer—133

Electromagnetic fields of a charge and isotropic medium in relative motion, L. Diesendruck—256

Electromotive force again, Melba Phillips—309(L) Electrophorus for lecture demonstrations, D. S. Ainslie—69

Electrophorus for lecture demonstrations, D. S. Ainslie—69 Electrostatic precipitation, G. E. Perry—930(L)

Elementary but exact treatment of a dipole ring, Vincent Santarelli-125

Equation for magnetic flux density, Moody L. Coffman-926

Erratum: Exact treatment of a dipole ring, Vincent Santarelli—606 Erratum: Single-domain particles: new uses of old theorems, William Fuller Brown, Jr.—73

An experimental study of the motional electric field, John W. Then -411

FBI in electromagnetism, Mario Iona-530

FBI two-gun rules, John V. Kline-927

A history of the electric wind, Myron Robinson-366

Initial value solution of Maxwell's equations in cold plasma, Richard A. Gerwin—711

Large demonstration electroscope, H. W. Dosso and R. H. Vidal -926

Lead-salt storage cell, Siegfried S. Meyers-470

Magnetic-dipole models, B. D. H. Tellegen-650

The magnetic pole in the formulation of electricity and magnetism, Robert Katz-41

Magnetoresistance of bismuth single crystals, L. Brodie, C. Sanford, and C. Haase—779(A)

Maxwell's solution of Kirchoff's laws and the superposition theorem, M. E. Gardner—567

Non-conservative nature of electric fields in dc networks containing sources of emf, P. P. Kane-385

Plasma resonance in the electrodynamics of metal films, R. A. Ferrell and E. A. Stern-810

Rationalization of the electromagnetic equations-Report of a subcommittee of the Symbols, Units, and Nomenclature Committee --423

Relative force between moving charges, Kemp Bennett Kolb—929 Resonance phenomena on electric oscillators, R. Ringhofer—554(A)

A review of recent British texts in electricity and magnetism, Francis T. Worrell-641

A second-order electric field due to a conduction current, W. G. V.

Simple circuits for electric and magnetic measurements, D. S. Ainslie-552(A)

Simple circuits for the measurement of magnetic field strength, inductance, and capacitance, Donald S. Ainslie—487

Simple ESR experiments at low magnetic fields, Alan B. Grossberg —927

Simplified bridge and resonant circuits for the measurement of resistance in absolute units, D. S. Ainslie—36

Electronics

Apparatus drawings project. A versatile RC-filtered low-voltage power supply and a calibrated direct-coupled amplifier, Robert G. Marcley.—738

Basic semiconductor devices, Raymond Daly and B. J. Hill—363 Microwave Doppler demonstration, C. L. Andrews—549(A)

Permanent electron diffraction tube, Harry F. Meiners and Stanley A. Williams—549(A)

A simple amplification system for PbS photocells, John V. Kline -479(A)

Snap-off diode, Robert S. Ricks-779(A)

Some physical aspects of electron-receiving-tube operation, Marshall Natapoff—621

Experiments

Analog display of Ptolemaic and Copernican orbits, E. M. Hafner and O. M. Bilaniuk-615

Book review: Experimentation and measurement by W. J. Youden, Charles Williamson-939

Book review: The science masters' book, series 4, part I-Physics edited by W. H. Dowland, J. M. Osborne, W. Pearson, and J. S. Strettan, Charles Williamson-474

A conservation of momentum experiment, Harold A. Daw and J. Preston Mitchell—530

On dealing with the imprecisions in experimental measurements, H. L. Armstrong—767

Demonstration of experiments in the elementary laboratory on scattering and absorption of rays from a radium source, Austin J. O'Leary-552(A)

A demonstration of the magnetic mirror effect, Ronald J. Allen -867

Dip-energy of the two gamma or x-rays with small energy separation, Michael Svonavec-780(A)

An estimation laboratory, Floyd Parker-551(A)

Experimental deduction of the law of centripetal force, Ira M. Freeman-421

Experiments with a beta-ray spectrometer in the undergraduate nuclear physics laboratory, Bailey Donnally—780(A).

From the state of th

Experiments with an electrically operated Kundt tube, R. B. Hastings and Yung-Yao Shih.—512

Factors affecting precision in the measurement of the speed of light by beginning students, R. B. Kennard—551(A)

An improved rotational dynamics apparatus, G. Schwarz, R. Krom-hout, and C. Jones—550(A)

Improved "suspended balloon" experiment, S. Machlup-549(A) An inelastic neutron scattering experiment, Eddie Ortiz-634

Inelastic scattering from iron using a neutron source, Eddie Ortiz —554(A)

A laboratory experiment on the Compton effect using scintillation counters, E. C. Parke, J. McCune, C. V. Wells, and J. J. Kraushaar—479(A)

Lead-salt storage cell, Siegfried S. Meyers-470

A light beam deflection alternative to the Michelson-Morley experiment, Jared W. Haslett-780(A)

Maxwell's solution of Kirchhoff's laws and the superposition theorem, M. E. Gardner—567

The measurement of the beta spectrum of I¹³⁸ in an undergraduate laboratory, J. D. Prentice and K. G. McNeill—66

Measurement of spin-lattice relaxation time in a liquid, Bailey Donnally—550(A)

Measurement of surface energies of alkali halide crystals, Leonard Grossweiner, S. L. Norman, and E. F. Zwicker-51

Momentum apparatus for laboratory and demonstration, T. N. Hatfield-554(A) New techniques in gamma-ray spectroscopy, John A. Eisele-613(A) The non-linear ruler, Alfred M. Bork-451

Nuclear physics laboratories for liberal arts colleges, B. G. Koloss-vary-552(A)

Oil drop experiment for electronic charge, Adam H. Spees—70 Permanent electron diffraction tube, Harry F. Meiners and Stanley

A. Williams—549(A)
Resonance phenomena on electric oscillators, R. Ringhofer—554(A)
Simple circuits for electric and magnetic measurements, D. S.

Ainslie-552(A)
Simple circuits for the measurement of magnetic field strength,

inductance, and capacitance, Donald S. Ainslie—487 Simple ESR experiments at low magnetic fields, Alan B. Grossberg —927

Six nuclear experiments for the beginning physics laboratory, John E. Edwards—395(A)

Strobe photography with the General Radio 1531-A Strobotac, David Eldridge, Edward M. Skinner, and J. Tsepas—921

Student experiment on the measurement of nuclear excitation functions, George L. Bate—417

Transient conditions in the operation of Atwood's machine, Harold P. Stephenson—554(A)

Utilizing modern data acquisition techniques in the teaching laboratory, Frank S. Mathews—479(A)

Wave phenomena from particles, Kemp Bennett Kolb-69 Yellow shift, Raymond L. Tanner-310(L)

Films

Films for students of physics, supplement I, Robert L. Weber --321

Film review: Archimedes' principle, Clifton Bob Clark—932
Film review: An experiment in physics, Robert Hulsizer—84
Film review: Physics and Interference of Physics, Physics and Interference of Physics, Physics and Interference of Physics and Interferenc

Film review: Photons and Interference of photons, Malcolm Correll -772

Listing of British films, Robert L. Weber-606

General physics, educational aspects

Book review: Physics for the inquiring mind by Eric M. Rogers, Francis L. Friedman-660

Federal republic students exhibit increasing preference for engineering and the natural sciences—230

Independent study and research in the undergraduate physics curriculum, Harold K. Schilling—191

Intermediate courses in physics, E. U. Condon-166

Intermediate physics courses for the undergraduate physics major, Malcolm Correll—178

Introductory courses in physics major curricula, Mark W. Zemansky -163

A look at the Denver conference, Walter C. Michels-225

Preparation for teaching physics in secondary school, Fletcher G. Watson—199

Report of the Denver conference on curricula for undergraduate majors in physics, John I. Lodge—153

The role of experimental work, Walter C. Michels, 172

The role of experimental work, H. V. Neher-186

Some results of a survey made for the conference on curricula for undergraduate majors in physics, L. W. Phillips—207

Toward a more effective introductory laboratory, Irving E. Dayton -218

General physics, instructional techniques

Can college students master physics without ever attending class? Jay Orear—550(A)

Combined physics-chemistry courses in the undergraduate curriculum, Lewis Salter—781(A)

Demonstration of experiments in elementary laboratory on scattering and absorption of rays from a radium source, Austin J. O'Leary— 552(A)

Elementary treatment of wave phenomena using pulses, John J. Heilemann—944(A)

An estimation laboratory, Floyd Parker-551(A)

Factors affecting precision in the measurement of the speed of light by beginning students, R. B. Kennard-551(A) Films for students of physics, supplement I, Robert L. Weber—321 Improved "suspended balloon" experiment, S. Machlup—549(A)

An interesting observation on the electrophorus, Julius Sumner Miller—71(L)

The Kepler and Rutherford problems: a geometrical treatment, D. L. Livesey-629

New introductory physics courses at Lehigh University, Raymond J. Emrich—943(A)

The non-linear ruler, Alfred M. Bork-451

The overhead projector as a replacement for the blackboard, Al Butler-612(A)

Resource letter PL-1 on polarized light, William A. Shurcliff—227
On a student's misconception about gravity and acceleration, H. L.
Armstrong and N. K. Sherman—528

Transient conditions in the operation of Atwood's machine, Harold P. Stephenson—554(A)

Wave phenomena from particles, Kemp Bennett Kolb-69

Geophysics

Book review: An introduction to physical oceanography by William S. Von Arx, C. Harrison Dwight-775

Some solid-state problems in the earth's crust, Frank S. Mathews-478(A)

Heat and thermodynamics

Apparatus drawings project. Platinum wedge blackbody, Robert G. Marcley—127

Book review: Experimental cryophysics by F. E. Hoare, L. C. Jackson, and N. Kurti, James W. Meyer—610
Book review: Near zero by D. K. C. MacDonald, David Park—662

Book review: Near zero by D. K. C. MacDonald, David Park—662 Book review: Thermodynamics of solids by R. S. Swalin, Allen L. King—778

Definition of the perfect gas: comments on a paper by Landsberg, Donald G. Miller—384(L)

Erratum: Strange Carnot cycles, John S. Thomsen and Theodore J. Hartka-368

Film review: An experiment in physics, Robert Hulsizer-844

Further remarks on the zeroth law, Louis A. Turner—804 Homogeneous nucleation of vapor condensation, James E. McDonald

-870

Independence of the first and second laws of thermodynamics,

Homer W. Schamp, Jr.—825 Interior value problems of mathematical physics, Part II. Heat conduction, A. V. Masket and A. C. Vastano—796

On the Kelvin and perfect gas temperatures: reply to Dr. Mapother, Donald G. Miller and Warren Dennis—144(L)

Matrix representation of thermodynamics of multi-component systems, P. J. Carroll, Jr. and J. J. Kyame-282

A note on the equation of adiabatic saturation, G. B. McMahon and J. G. Downes-603

A restatement of the zeroth law of thermodynamics, John S. Thomsen—294.

Retardation and diffraction aspects of the conduction of heat in solids, Frederick E. Alzofon—285

Simplification of Carathéodory's treatment of thermodynamics II, Louis A. Turner—506

Specific heat of a particle in a box, Herbert B. Rosenstock-38

Strange Carnot cycles: thermodynamics of a system with a density extremum, John S. Thomsen and Theodore J. Hartka—26

Thermal imagery: new medium for demonstrating phenomena in heat and thermal radiation, Allen Strickler—300

History and biography

An American physicist's year in Europe: Henry A. Rowland, 1875– 1876, Samuel Rezneck—877

Anniversaries in 1962 of interest to physicists, E. Scott Barr—347
Book review: *Treasury of World science* edited by Dagobert G.
Runes, Arnold Arons—936

Bradley at Kew, Albert B. Stewart-552(A)

Electrostatic precipitation, G. E. Perry-930(L)

The hedgehog and the fox, Otto Blüh-552(A)

A history of the electric wind, Myron Robinson-366

On the importance of studying physics, George Barnes-314(A), 553(A)

Men and events of science commemorated on postage stamps, Julius Sumner Miller—551(A)

Newton's second law, Raymond J. Seeger-930(L)

Laboratory arts and techniques

Book review: Scientific foundations of vacuum technique by Saul Dushman, Sanborn C. Brown-612

Simplified bridge and resonant circuits for the measurement of resistance in absolute units, D. S. Ainslie—36

Water temperature measurement, R. C. Eschenbach-604(L)

Laboratories, construction and equipment

About lecture tables, A. B. Cardwell-841(L)

Laboratories, organization and operation

Effective utilization of graduate assistants in a teaching capacity, Joseph W. Straley—548(A)

Experience with a delayed laboratory schedule, A. M. Hudson-314(A)

The senior physics laboratory course at Dartmouth College, William P. Davis, Jr.—565

Light

Aether concept versus special relativity, Tino Ahrens-34

Apparatus for an experiment in photometry, Kenneth Lyle Warren-768

Book review: Instrumental optics by G. A. Boutry, C. Harrison Dwight-940

Book review: Introduction to Fourier analysis by R. D. Stuart, Albert A. Mullin-660

A demonstration nodal device, J. Barner and W. Noll-942(A)

The experimental evidence for the second postulate of special relativity, J. G. Fox-297

Factors affecting precision in the measurement of the speed of light by beginning students, R. B. Kennard—551(A)

Film review: Photons and Interference of photons, Malcolm Correll -772

Fresnel diffraction with phase objects, Milton H. Sussman—44 Gratings prepared by photographing double- and multiple-slit Fraun-

hofer diffraction fringes, K. V. Krishna Rao-106

Incoherent interference, H. N. Rexroad—394(A)
Interference of linearly polarized light with perpendicular polarizations, Walter Roy Mellen—772(L)

Interference and plane of polarization of light, Geraldine Karpel—

Light beats, Hans Weltin-653

Microwave zone plates, Thomas B. Brown-55

Modification to an inexpensive interferometer, G. Friedmann and R. Vidal-604(L)

Moiré patterns—a demonstration, Elisabeth A. Wood—381

Multiple images, Chung-heng Liu-380

Optics demonstrations with 3-cm microwaves, J. Herbert Haynsworth -781(A)

Reflecting prism for an optical bench screen, Bruce Lee and Donald Snyder-767

Reply to Babcock's note, the "Sagnac" interferometer, Alfred Zajac -310(L)

Resonance absorption, E. H. Weinberg-654

Resource letter PL-1 on polarized light, William A. Shurcliff-227

The "Sagnac" interferometer, Gary C. Babcock-311(L)

Screen for optical demonstrations, Robert A. Lufburrow-929

Simple demonstration experiments in the Abbe theory of image formation, Katarina Kranjc—342

Some research on scintillators, William R. Anderson-234(A)

Two common textbook errors: Brewster's law and Huygens' principle, Robert Weinstock—549(A)

An undergraduate research program in molecular spectroscopy, James W. Riggs-551(A)

Yellow shift, Raymond L. Tanner-310(L)

Mathematics

Book review: Analytical foundations of physical statistics, authorized English edition by A. I. Khinchin, Allen L. King-611

Book review: Experimentation and measurement, by W. J. Youden, Charles Williamson-939

Book review: Group theory and its applications to physical problems by Morton Hamermesh; Albert A. Mullin-774

Book review: Introduction to Fourier analysis by R. D. Stuart, Albert A. Mullin-660

Book reviews: Introduction to the theory of Newtonian attraction, A. S. Ramsey, F. W. Van Name, Jr.—844

Book review: Mathematics of modern engineering, Vols. I and II by Ernest G. Keller and Robert E. Doherty, A. A. Mullin—475 Book review: The method of functionals in the quantum theory of fields by Novozilhilov and Tulub, Raymond J. Seeger—933 Book review: Numerical analysis by Zdeněk Kopal, A. A. Mullin—

609
Book review: Studies in statistical mechanics, Vol. I, J. A. Mc-

Lennan—847
Book review: What is calculus about? by W. W. Sawyer, Francis
T. Worrell—938

On certain combinatorial problems, Herbert B. Rosenstock and A. A. Maradudin-330

Compressible fluid flow and the theory of characteristics, Gordon D. Anderson and William Band-831

On the derivation of Maxwell's equations and the boundary conditions from Coulomb's law, T. A. Green-788

Further applications of the method of advancing centroids, S. I. Askovitz-551(A)

Interior value problems of mathematical physics, A. V. Masket and A. C. Vastano—548(A)

Interior value problems of mathematical physics, part I. Wave propagation, A. V. Masket and A. C. Vastano-687

Interior value problems of mathematical physics, part II. Heat conduction, A. V. Masket and A. C. Vastano—796

Lagrange's equations and the tensor concept, Charles N. Hamtil—548(A)

Recommendations on the undergraduate mathematics program for

Recommendations on the undergraduate mathematics program for engineers and physicists, Robert Wisner—569

Remarks on the possibilities of the square when visualized as a curvilinear curve, Jacques Allard-840

On a simple class of combinatorial problems, P. T. Landsberg—532 Vector representation of rigid body rotation, Carl Grubin—416 What's happening to calculus? Robert J. Wisner—483

Mechanics, classical

An air bearing Maxwell top, H. V. Neher-503

An alternate derivation of the excess pressure inside a spherical drop, Samuel C. Wheeler, Jr.—528

Apparatus drawings project. Impulse-driven torsional mechanical oscillator, Robert G. Marcley—115

Apparatus drawings project. Launching tube for a laboratory experiment in projectile motion, T. Walley Williams, III-851
Apparatus drawings project. Whirlygig: a conical pendulum for cen-

Apparatus drawings project. Whiriygig: a conical pendulum for centripetal force experiments, Robert G. Marcley—221

Axiomatic deduction of the general Lorentz transformtaion, H. M. Schwartz-697

Book review: Analytical mechanics by Grant R. Fowles, R. C. Whitten, Jr.—938

Book review: Elements of Hamiltonian mechanics by D. Ter Haar, F. W. Van Name, Jr.—474

Book review: Gravity by George Gamow, Howard Laster-777 Book review: Inertial guidance by George R. Pitman, Jr., J. D.

Book review: Introduction to space dynamics by William Tyrrell

Book review: Introduction to space dynamics by William Tyrrell Thomson, Thornton Page—608 Book review: Introduction to the theory of Newtonian attraction

by A. S. Ramsey, F. W. Van Name—844
Book review: Physical mechanics by R. B. Lindsay, J. R. Graham,

Jr.—777 On classical coulomb scattering, Gérard Nadeau—654

Comment on "Significance of the Mach principle," Rev. James W. Felt, S. J.-384

Compressible fluid flow and the theory of characteristics, Gordon D. Anderson and Wililam Band-831

A conservation of momentum experiment, Harold A. Daw and J. Preston Mitchell-530

Demonstration of an arrangement to illustrate mass and momentum in lecture by quick accurate measurements of inertial mass plus test of a prediction, A. J. O'Leary-555(A)

Demonstrations of weightlessness, Haym Kruglak—929 An electric-mechanical analog, Andrew Ahlgren—654

Exact normal modes of oscillation of a linear chain of identical particles, James D. Louck-585

Experimental deduction of the law of centripetal force, Ira M. Freeman-421

Film review: Archimedes' principle, Clifton Bob Clark-932 Heuristic interpretation of the hyperbolic relation for density,

Michael Svonavec—233(A)
Impact demonstration with plastic croquet balls, R. Edwin Worley

-769
An improved rotational dynamics apparatus, G. Schwarz, R. Krom-

hout, and C. Jones—550(A) Improved "suspended balloon" experiment, S. Machlup—549(A)

Interior value problems of mathematical physics, part I. Wave propagation, A. V. Masket and A. C. Vastano—687

The Kepler and Rutherford problems: a geometrical treatment, D. L. Livesey—629

Lagrange's equations and the tensor concept, Charles N. Hamtil—548(A)

Linear air trough-a modification, John L. Stull-839

The mechanical conservation laws and the physical properties of groups of motions in flat and curved space-times, William R. Davis and Gerald H. Katzin—750

Momentum apparatus for laboratory and demonstration, T. N. Hatfield—554(A)

On the momentum theorem for a continuous system of variable mass, James F. Thorpe—637

Motion subject to a central force: an apparatus for demonstrating orbital stability, David Telfair and John T. Brooks—561

Newton's second law, Raymond J. Seeger-930(L)

A note on specific impulse and rocket performance, James R. Dafler—770

Projectile motion with damping proportional to velocity, Gérard Nadeau—619

The restless harmonic oscillator, Michael W. Hane-84

Satellite orbit simulator, Jean Schooley-531

Simple apparatus for angular motion demonstration, H. W. Dosso and R. H. Vidal—528

The stop-light dilemma, Howard A. Seifert-216

On a student's misconception about gravity and acceleration, H. L. Armstrong and N. K. Sherman—528

Transient conditions in the operation of Atwood's machine, Harold P. Stephenson-554(A)

Mechanics, quantum

Approximate elimination of the periodic lattice potential in the electron transfer method, E. F. Sieckmann—80(A)

Book review: Atomic theory and the description of nature by Niels Bohr, E. T. Jaynes-658

Book review: Elementary quantum mechanics by Peter Fong, John L. Prather—845

Book review: Group theory and its applications to physical problems by Morton Hamermesh, Albert A. Mullin-774

Book review: An introduction to relativistic quantum field theory by Silvan S. Schweber, Herman Feshbach-610

Book review: The method of functionals in the quantum theory of fields by Novozilhilov and Tulub, Raymond J. Seeger-933

Book review: Quantum theory edited by D. R. Bates, A. Pytte—662 Book review: Studies in statistical mechanics, Vol. I, J. A. Mc-Lennan, Jr.—847

Book review: Theory of direct nuclear reactions by W. Tobacman, B. James Raz-543

Book review: Wave mechanics of crystalline solids by R. A. Smith, E. T. Jaynes-845 Classical and spin-orbit effects in Compton scattering, S. C. Miller and R. M. Wilcox-478(A)

Density matrix representations, J. D. Patterson-894

Determination of a potential from its energy levels and undetectability of quantization at high energy, Joseph B. Keller-22

Effective electronic mass tensor, electrical conductivity, and Hall effect for spherical energy surfaces, Jean-Pierre Jan-497

Elementary quantities and the uncertainty principle, Jack G. Dodd -383

Elementary theory of resonance scattering, B. W. Downs—248
Experimental foundations of the BCS theory of superconductivity,
Donald M. Ginsberg—433

Forced vibrations of a harmonic lattice in quantum mechanics, William Band—646

Long-time transition probabilities for a two-level system interacting with a stochastic electromagnetic field, Fred W. Cummings—898

The macroscopic nature of space-time, E. J. Zimmerman—97 A note on the exclusion principle, John Robert Shewell—140

Observables of relativistic particles, L. M. Garrido and J. Sesma —887

Remark concerning the eigenvalues of angular momentum, H. A. Buchdahl—829

The restless harmonic oscillator, Michael W. Hane-84

Simple derivation of the electron-nucleus contact hyperfine interaction, George T. Rado-716

A simplified treatment of quantum-mechanical scattering problem using wave packets, Russell K. Hobbie—857

The single-valuedness of wavefunctions, E. Merzbacher—237 Solution of the Schrödinger equation for the hydrogen atom in rectangular coordinates. Grant R. Fowles—308

Some applications of hypervirial theorems to the calculation of average values, J. H. Epstein and S. T. Epstein—266

Specific heat of a particle in a box, Herbert B. Rosenstock—38

Mechanics, statistical

The arrow of time, T. Gold-403

Book review: Analytical foundations of physical statistics, authorized English edition by A. I. Khinchin, Allen L. King-611

Book review: Studies in statistical mechanics, Vol. I, J. A. McLennan-847

Coefficients of diffusion, viscosity, and thermal conductivity, Edward A. Desloge—911

The development of the kinetic theory of gases, VI. Viscosity, Stephen Brush—269

Elementary but exact treatment of a dipole ring, Vincent Santarelli -125

Entropy and uncertainty, Manuel Castañs-521

Erratum: Exact treatment of a dipole ring, Vincent Santarelli—606 Homogeneous nucleation of vapor condensation, part I, James E. McDonald—870

Model for the reaction rate constant, Masataka Mizushima and Donald G. Burkhard—479(A)

The restless harmonic oscillator, Michael W. Hane-84

On a simple class of combinatorial problems, P. T. Landsberg—532
The solution of a combinatorial problem, Michael E. Fisher—49
Some applications of hypervirial theorems to the calculation of average values, J. H. Epstein and S. T. Epstein—266

Specific heat of a particle in a box, Herbert B. Rosenstock—38 Vibratory Brownian motion, Madhuker R. S. Baxi—783

Microwaves

Microwave Doppler demonstration, C. L. Andrews—549(A) Microwave zone plates, Thomas B. Brown—55

Optics demonstrations with 5-cm microwaves, J. Herbert Haynsworth —78(A)

Modern physics

Book review: Elementary modern physics by Weidner and Sells, Walter E. Meyerhof and Mason R. Yearian—607

Book review: Fundamentals of modern physics by Robert M. Eisberg, Raymond B. Sawyer-937

Book review: Molecular physics edited by Dudley Williams, F. R. Scott-658

Book review: The story of atomic theory and atomic energy by J. G. Feinberg, Thomas D. Miner-542

Design and construction of a 90° sector field mass spectrometer for low-energy sputtering studies, J. R. Woodyard and C. B. Cooper -943(A)

Elementary quantities and the uncertainty principle, Jack G. Dodd-

Film review: Photons and interference of photons, Malcolm Correll -772

Lecture demonstration of electron diffraction, John M. Fowler, William Warren, and Edward Lambe-891

Measurement of spin-lattice relaxation time in a liquid, Bailey Donnally and Enrique Bernal-550(A)

Oil drop experiment for electronic charge, Adam H. Spees--70 Permanent electron diffraction tube, Harry F. Meiners and Stanley A. Williams-549(A)

Photographing tracks in a diffusion cloud chamber, Bert J. Hill-602 Simple derivation of the electron-nucleus contact hyperfine interaction, George T. Rado-716

Simple ESR experiments at low magnetic fields, Alan B. Grossberg-

Nuclear physics

Analogy between nuclear chain reacting system and vibrating strings and membranes, Shiv Datt Pabbi-854

Aperture extension of a paraffin and Li₂CO₃ collimator caused by gamma-ray energies of 0.511 MeV and 1.277 MeV, D. Arnett and M. T. McEllistrem-81(A)

Apparatus drawings project. Proportional counter, Robert G. Marcley-60

Beta-ray counting errors due to scattering, Francis E. Munley-943(A)

Book review: Annual review of nuclear science, Peter Axel-847 Book review: Living with the atom by Ritchie Calder, Edith H.

Ouimby-941 Book review: Particle accelerators by Stanley Livingston and John

P. Blewett, E. E. Stickley-940 Book review: The release and use of atomic energy by T. E. Allibone, Frederick W. Swan-778

Book review: Theory of direct nuclear reactions by W. Tobacman, B. James Raz-543

Classical models of radiative decay, Charles Kaufman and Rolf G. Winter-93

Comparison of pulsed beams and associated particle time of flight systems for detection at small angles, R. C. Lamb and M. T. McEllistrem-81(A)

Demonstration of experiments in the elementary laboratory on scattering and absorption of rays from a radium source, Austin J. O'Leary-552(A)

Dip-energy of the two gamma or X rays with small energy separation, Michael Svonavec-780(A)

Elastic deuteron scattering from heavy nuclei, Dennis G. Hoffman-779(A)

An experiment on airborne particulate radioactivity, Richard I. Weller-943(A)

Experiments with a beta-ray spectrometer in the undergraduate

nuclear physics laboratory, Bailey Donnally-780(A) Fission studies using nuclear emulsions, Robert G. Hughson-613(A)

An inelastic neutron-scattering experiment, Eddie Ortiz-634 Inelastic scattering from iron using a neutron source, Eddie Ortiz-554(A)

An inexpensive nuclear laboratory, Charles Zucker-16

The measurement of the beta spectrum of I128 in an undergraduate laboratory, J. D. Prentice and K. G. McNeill-66

New techniques in gamma-ray spectroscopy, John A. Eisele-613(A) Nuclear physics laboratories for liberal arts colleges, B. G. Kolossvary-552(A)

A radioactivity experiment using activities filtered from the air, G. N. Whyte and H. W. Taylor-120

Some aspects of high energy physics, Lester Winsberg-234(A) Some research on scintillators, William R. Anderson-234(A)

Spectroscopic calculations for Muss levels, M. T. McEllistrem-81(A)

Student experiment on the measurement of nuclear excitation functions, George L. Bate-417

Particles, elementary

Classical models of radiative decay, Charles Kaufman and Rolf G. Winter-93

Some aspects of high energy physics, Lester Winsberg-234(A)

Philosophy of science

The macroscopic nature of space-time, E. J. Zimmerman-97 Positive vs. impotent statement of laws, E. A. Power-71(L)

Plasma physics

A demonstration of the magnetic mirror effect, Ronald J. Allen-867 Initial value solution of Maxwell's equations in cold plasma, Richard A .Gerwin-711

Resource letter PP-1 on plasma physics, Sanborn Brown-303

Properties of matter

Book review: States of matter by E. S. Moelwyn-Hughes, H. L. Armstrong-932

Experimental foundations of the BCS theory of superconductivity, Donald M. Ginsberg-433

Measurement of surface energies of alkali halide crystals, Leonard Grossweiner, S. L. Norman, and E. F. Zwicker-51

Nuclear-spin-lattice for relaxation in ethane, B. H. Muller and J. D. Noble-478(A)

Strange Carnot cycles: thermodynamics of a system with a density extremum, John S. Thomsen and Theodore J. Hartka-26

Track density characteristics of liquid hydrogen bubble chambers, W. H. Sims-393(A)

Reactors

Analogy between nuclear chain reacting system and vibrating strings and membranes, Shiv Datt Pabbi-854

Relativity

Aether concept versus special relativity, Tino Ahrens-34

The arrow of time, T. Gold-403

Axiomatic deduction of the general Lorentz transformation, H. M. Schwartz-697

Book review: Gravity by George Gamow, Howard Laster-777

Comments on McVittie's review of General Relativity and Gravitational Waves, J. Weber-605(L)

Electromagnetic fields of a charge and isotropic medium in relative motion, L. Diesendruck-256

The experimental evidence for the second postulate of special relativity, J. G. Fox-297

A geometric representation of Galilean and Lorentz transformations, R. W. Brehme-489

A geometrical introduction to special relativity, Scott C. Daubin

Length contraction paradox, R. Shaw-72(L)

A light beam deflection alternative to the Michelson-Morley experiment, Jared W. Haslett-780(A)

The Lorentz-Einstein transformation obtained by a vector method, Gérard Nadeau-602

The macroscopic nature of space-time, E. J. Zimmerman-97

The mechanical conservation laws and the physical properties of groups of motions in flat and curved space-times, William R. Davis and Gerald H. Katzin-750

"Meta" relativity, O. M. Bilaniuk, V. K. Deshpande, and E. C. G. Sudarshan-718

Note on gravitational red shift, James C. Gravitt and Peter Waldow -307

On physical geometry, Werner Hubig-591

Relative force between moving charges, Kemp Bennett Kolb-929 Reply to Professor Schlegel, E. J. Zimmerman-841(L)

Resource letter SRT-1 on special relativity theory, Gerald Holton-

Special relativity and space-time, Richard Schlegel-841(L)

Stress effects due to relativistic contraction, Paul J. Nawrocki-771

Reports, announcements, and news

Academic Year Institute 48

Alfred Romer becomes acting editor of American Journal of Physics --83

Arthur Holly Compton (1892-1962), Reginald J. Stephenson—843 Central Association of Science and Mathematics Teachers—842

Changes in meteorological journals—931
Chicago high school physics teachers association report of the committee on certification, V. K. Brown, Jr.—539

Conference on curricula for undergraduate majors in physics, Byron E. Cohn-79

1962 conference in semiconductors-73

Corning Science Book Prize-842

Distribution of Ten-Year Index-931

Editorial office moves-472

Editorial office moves-657

Edward D. Lambe to become executive Secretary of commission on college physics—657

Fact Sheet on U. S. Nuclear Power Projects—842 Foreign language tests for graduate students—538

1962 Gatlinburg conference on nuclear education—471

History of quantum physics: Appeal for letters, manuscripts, and

History of quantum physics: Appeal for letters, manuscripts, and recollections—473

Low energy nuclear physics-541

Michigan Fellows in college administration-931

National Science Education Exposition—842 Neutron-activation analysis course—499

Neutron beam research in solid-state physics-539

Progress report of the commission on college physics, Walter C. Michels-665

Radiological physics 471

Ray Lee Edwards ceremonial volume, Jens C. Zorn-559

Register of scientists interested in overseas assignments-72

Report of the editor for the year 1961, Walter C. Michels—397 Report of the membership committee, C. Luther Andrews—472

Report of the membership committee, C. Luther Andrews— Report of the treasurer, Sanborn C. Brown—558

Robert Louis Price, 1896-1962-606

Summer institutes of interest to college physics teachers-284

Symposium on measurement of thermal radiation properties of solids —542

Symposium on molecular structure and spectroscopy scheduled for June—388

Ten-year index in preparation-842

Thirteenth annual Fisk University infrared spectroscopy institute—

Tom Wilkerson Bonner-388

Research and teaching

Practical aspects of the combination of research and teaching, Erna M. J. Herrey-533(A)

Some aspects of physics research in non-Ph.D. granting institutions, Walter H. Kruschwitz-745

Research, undergraduate

Research with undergraduate students, Donald D. Snyder—554(A)

An undergraduate research program in molecular spectroscopy,
James W. Riggs—551(A)

On ways and means, Walter R. French Jr.-552(A)

Rockets

A note on specific impulse and rocket performance, James R. Dafler—770

Satellites

8

Satellite orbit simulator, Jean Schooley-531

Secondary school physics

The Kepler and Rutherford problems: a geometrical treatment, D. L. Livesey—629

Preparatory curriculum for PSSC physics, Louis Deall and Lawrence Badar—553(A)

P.S.S.C. physics in Indiana, H. T. Black-550(A)

Science fair projects in physics, James R. Stevenson-656(L)

Temple University to offer academic year institute exclusively for physics teachers—48

My year of high school teaching in North Louisiana, Charles Williamson-553(A)

Social and economic aspects of science

Book review: Living with the atom by Ritchie Calder, Edith H. Quimby-941

On the importance of studying physics, George Barnes-341(A), 553(A)

What the West can learn from the East, Louis R. Weber-479(A) Women and physics, Edward P. Clancy-626

Solid-state physics

Approximate elimination of the periodic lattice potential in the electron transfer method, E. F. Sieckmann—80(A)

Book review: Solid-state physics, Vol. 12, Advances in research and applications by F. Seitz and D. Turnbull, R. W. Christy—936 Book review: Thermodynamics of solids by R. S. Swalin, Allen L. King—778

Elementary but exact treatment of a dipole ring, Vincent Santarelli —125

Erratum: Exact treatment of a dipole ring, Vincent Santarelli—606 Erratum: Single-domain particles: new uses of old theorems, William Fuller Brown, Jr.—73

Experimental foundations of the BCS theory of superconductivity, Donald M. Ginsberg-433

Infrared absorption in germanium, Kent H. Johnston—779(A)
Magnetoresistance of bismuth single crystals, L. Brodie, C. Sanford,

Magnetoresistance of bismuth single crystals, L. Brodie, C. Sanford, and C. Haase—779(A)

Measurement of surface energies of alkali halide crystals, Leonard . Grossweiner, S. L. Norman, and E. F. Zwicker—51

Retardation and diffraction aspects of the conduction of heat in solids, Frederick E. Alzofon—285

Some solid-state problems in the earth's crust, Frank S. Mathews-478(A)

Studies of the electronic structure of covalent semiconductors by EPR, George Bemski—902

Sound

Attenuation of sound at high altitudes, Robert C. Amme-479(A) Beats and beat notes, Olan E. Kruse-840(L)

Beats and difference tones, W. F. Palmer-386(L)

Demonstration of the Doppler effect, Harry E. Stockman—307 Experiments with an electrically operated Kundt tube, R. B. Hastings and Yung-Yao Shih—512

Subharmonic oscillations in a piecewise linear system, William Pong and William Marcaccio—500

Ultrasonic absorption in gases using a pulse technique, C. E. Adams, W. L. Wilhoyte, and P. P. Lin—394(A)

Space physics

Book review: Inertial guidance by George R. Pitman, Jr., J. D. Trimmer-937

Book review: Introduction to space dynamics by William Tyrrell Thomson, Thornton Page-608

Intensity-time variations of the cosmic radiation, J. A. Lockwood

Keeping track of satellites, D. F. Bender, A. S. Leonard, and G. A. McCue-555(A)

A note on specific impulse and rocket performance, James R. Dafler-770

Teacher training

Chicago high school physics teachers association: Report of the committee on certification, V. K. Brown, Jr.-539

Effective utilization of graduate assistants in a teaching capacity, Joseph W. Straley—548(A) Joint seminars in physics for colleges, Verne E. Dietrich—234(A) Report on a summer institute for high school teachers, A. C. Visual materials and methods Helmholz-549(A)

Testing, theory and techniques

Foreign language tests for graduate students-538 Open-book tests and certain other practices found to be helpful in the teaching of physics, Norris W. Goldsmith-551(A)

Units, dimensions, and terminology

The dimensions of w, John Gibson Winans-550(A)

Kalantaroff dimension system, V. A. Kinitsky-89

New atomic weight scale-388

Rationalization of the electromagnetic equations-Report of a subcommittee of the Symbols, Units, and Nonmenclature Committee -423

Simplified bridge and resonant circuits for the measurement of resistance in absolute units, D. S. Ainslie-36

Weight and weightlessness, Allen L. King-387(L)

Demonstration experiments on fluid flow, Harold Waage-549(A) An experimental evaluation of the use of instructional films in college physics, D. J. Tendam, R. R. McLeod, and Richard E. Snow -- 594

Listing of British films, Robert L. Weber-606

The production of instructional films with university facilities, D. J. Tendam and R. R. McLeod-517

Showing difficult classroom demonstrations by the projection method, Perry Sprawls, Jr.-548(A)

X rays

A device to demonstrate the reciprocal lattice concept in relation to single-crystal x-ray diffraction patterns, A. Mc.L. Mathieson-864

A laboratory experiment on the Compton effect using scintillation counters, E. C. Parke, J. McCune, C. V. Wells, and J. J. Kraushaar-479(A)

